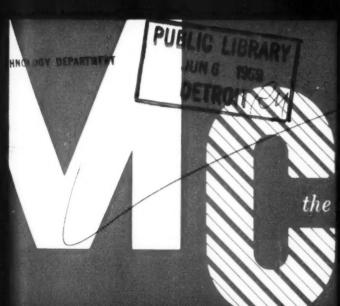
• National Confectioners Association Convention issue:

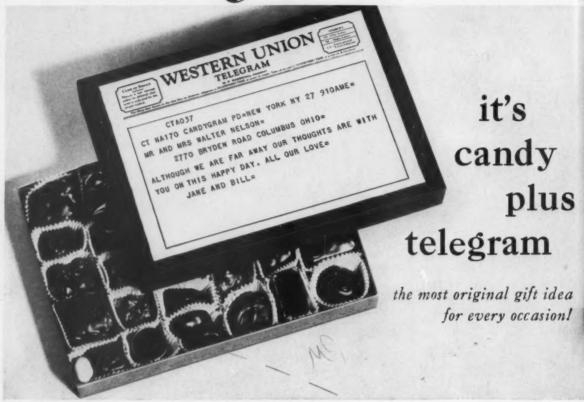
> Program Exhibits

- Determination of corn syrup in finished candy analysis
- Standard cost system at Sevigny's Candies



the Manufacturing Confectioner

Candy Gram...



#### this BIG IDEA builds BIGGER sales for YOU!

Candy Gram a Competitor? Don't you believe it!!

Candy Gram's Unique Distribution Will Actually Create Greater Demand For The Candy You Now Sell!

Candy Gram is candy-by-wire—distributed exclusively through the hundreds of Western Union offices all over America.

CandyGram is purchased-by-phone . . . . not across the counter by shoppers in candy or department stores.

CandyGram's national distribution and vigorous promotion are guaranteed to create new interest and

awareness in fine candy as the perfect gift item for any occasion!

CandyGram will give all candy new importance and prestige and help promote its sale.

Candy Gram is another quality product of Stevens Candy Kitchens, Inc.—another big idea to help build not only sales of Mrs. Stevens Candy but all fine candies wherever they are sold!



611 NORTH
SACRAMENTO BLVD.
PHONE:
SACRAMENTO 2-0600





IS

dea onl

111

or

ce

ns

ld

ne

BLVD.

2-0600

AGO

CONSULT YOUR FLAVOR SUPPLIER

Original and still first choice. Continuous research assures unvarying excellence and uniformity. You can depend on the fine flavor and aroma produced by ZIMCO VANILLIN

#### ${f Sterwin\ Chemicals\ Inc.}$

1450 BROADWAY, NEW YORK 18,

BRANCH OFFICES. Atlanta . Buffalo . Dallas . Evanston III I . Kansas City Mo I . Los Angeles . Minneapolis . Portland Ore | . St. Louis . WAREHOUSES IN PRINCIPAL CITIES

WORLD'S LARGEST SUPPLIERS OF VANILLIN

# How bundling fraction-of-case units with Avisco cellophane can help your retailers



Retailers benefit in many ways when they receive fraction-of-case units of your product bundled in Avisco cellophane. This modern packaging film offers many time-saving and sales-building advantages over the paper wraps and boxes traditionally used for this purpose.

Cellophane enables retailers to use bundles as shelf displays without unwrapping. Bundles of a product can be conveniently stored next to individual packages remaining on the shelf. Retailers can see at a glance how much stock they have and what needs to be ordered. Cellophane bundling also facilitates mass displays during special promotions. In some instances it has even helped retailers sell entire bundled quantities to consumers.

Not only does the transparency of cellophane reveal the full impact of your consumer package—but its sparkle adds dramatic sales appeal. What's more, cellophane is unmatched when retention of freshness is essential. It controls air and moisture and keeps products free from dust. As a matter of fact, people everywhere have come to associate cellophane with freshness and cleanliness.

In addition to increasing the shelf life and sales appeal of a product for the retailer, cellophane eliminates the disposal problem caused by bulky cartons and wraps.

What about the cost? Bundling with Avisco cellophane can offer substantial savings. It eliminates the need for printed and labeled paper wraps or boxes; operates fast and efficiently on packaging machines; seals easier and more securely with heat. And cellophane substantially reduces packaging material inventory and the storage space it requires.

Cellophane bundling also becomes an extra selling tool for you during special promotions. For example, you can use printed cellophane to explain deals and display ideas to your retailers.

We offer a complete packaging service to assist you, and demonstrate how Avisco cellophane, plain or printed, will answer your bundling requirements better and more economically than any other material. Phone or write us for an appointment with our representative in your area or a selected cellophane converter specializing in your field.

Learn more about cellophane bundling. Send for this FREE handbook—"Cellophane Bundling... newest concept in distribution packaging."





AMERICAN VISCOSE CORPORATION, FILM DIVISION, 1617 PENNSYLVANIA BOULEVARD, PHILADELPHIA 3, PENNSYLVANIA

4 - The Manufacturing Confectioner

St

be dev Son foll and of T

boa Sha pres nou pres

T cals base and receings avai

Ex

Gov

of tand

Publish Telepho Main S

for

#### candy business

#### Stroud Jordan award to Otto Windt

The 1959 Stroud Jordan Award for outstanding contribution in the field of candy technology will be awarded to Otto H. Windt, manager of product development and quality control, E. J. Brach and Sons. The presentation will be made at a luncheon following the joint technical session of the NCA and AACT on June eighth at the Illinois Institute of Technology, Chicago, Illinois.

#### Shattuck director at Wallace

Thomas L. Shattuck has been elected to the board of directors of Wallace & Company. Mr. Shattuck is a special assistant to the sales vice president of Frank G. Shattuck Company. Announcement was also made that Herbert Bebar, president of Wallace will serve as chairman of the board in addition to his present duties.

#### Chemicals exempt from new law

The FDA has published two lists so far of chemicals which, due to considerations of their safety based on long use, it deems exempt from testing and from establishments of tolerances. The most recent list is composed of more than 150 seasonings and flavorings. Copies of these two lists are available from the Superintendent of Documents, Government Printing Office.

#### Exec changes at Johnston



e with

l sales

phane

bulky

cello-

tes the

boxes;

chines;

l cello-

aterial

selling

ample als and

st you,

ain or

ements

t with cello-

YLVANIA

oner



Walter V. Johnston has been named chairman of the board of the Robert A. Johnston Company and Robert L. Feind will succeed him as president of the company.

#### World cocoa committee planned

Delegates to the Food and Agriculture Organization's technical cocoa meeting in Accra, Ghana have asked that a world technical group be set up to improve the production and quality of the world cocoa crop. This would be complementary to the FAO's cocoa study group which was organized in 1956 to deal with the economic and policy aspects of the industry. A special fund would be solicited from interested governments, organizations and institutions to support work of the specialists committee. The group (to be recruited from all cocoa-producing countries which are members of FAO) would periodically review the world's production and processing problems, promote international cooperation for the solution of these problems and serve as an advisory body.

#### Howard B. Stark to move

The Howard B. Stark Company has announced plans to build a new plant at Pewaukee, Wisconsin and to vacate its present quarters in Milwaukee. The plant will be a one story, 35,000 square foot structure, larger than the present three story, 28,-000 square foot plant. The Pewaukee site, in Waukesha County about 30 miles from Milwaukee, was chosen because of proximity to sources of milk. The new plant is expected to be in full production by next January.

#### Courses for chemists

The 16th annual program of study for the chemical industries will open at the Rochester Institute of Technology on June 8 and continue through June 23. The theme of statistical quality control and design of experiments will be broken down into three courses, Basic Industrial Statistics, (June 8 to June 13), Design of Experiments (June 15 to June 20), and Evolutionary Operation (June 22 to June 23). It is stated that, "Those who are responsible for controlling quality of product at any point from the research laboratory to the production line will receive particular benefit from this program. . . . . companies with either continuous or batch production processes will find this program of value to their personnel engaged in production, research or development problems." Inquiries concerning the course should be sent to Harold M. Kentner, Assistant Director, Extended Services, Rochester Institute of Technology, Rochester 8, N. Y.

Published monthly by The Manufacturing Confectioner Publishing Company. Executive offices: 418 North Austin Boulevard, Oak Park, Illinois. Telephone Village 8-8310. Eastern Offices: 180x 115, Glen Rock, New Jersey. NY. City telephone Bowling Green 8-8976. Publication Offices: 1306 N. Main Street, Pontiac, Illinois. Copyright, 1959, Prodence W. Allured. All rights reserved. Second-class mail privileges authorised at Pontiac, Illinois.

#### HORIZONTAL COCOA PRESS "POV. 430/6"

- . Six Pots: 200 lbs.
- · Pneumatically controlled feed valves.
- · Fully automatic performance.
- Two pressings per hour down to 10% fat—or lower—remaining in the cocoa cakes.



Vai

Confe a pla

Ricel

prese

troit

Bar

Fir of th

sored Assoc The

vince

Ne

execu

has h

ager

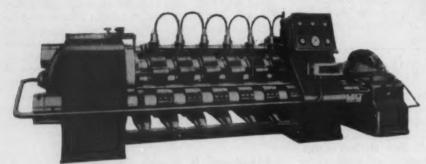
the p

Cand used Mrs.

for J

Wa

Ho



50 years experience

#### 12 POT HORIZONTAL COCOA PRESS

#### Type-"POV/540"

Capacity 550 lbs.

4 pressings per hour with 22/20%

fat in the cakes.

#### Type-"POV/540/b"

Capacity 375 lbs.

2 pressings per hour with 10% fat

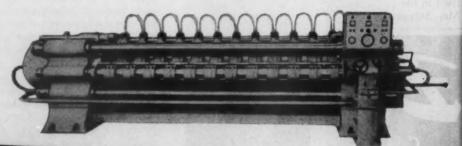
in the cakes.

NEW:

Fully automatic operation

Patents Pending Throughout the World

VISIT US AT THE NCA EXHIBITION JUNE 8 TO 11, 1959



CARLE

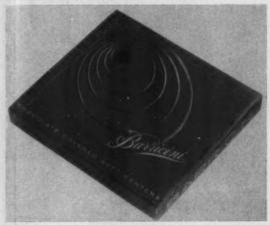
95 temple avenue, hackensack, n. j.

Sales Representative & Service: Chicago, III.—Los Angeles, Calif.—Canada in Vancouver, B. C.—Calgary, Altu.—Winnipeg, Man.—Terento, Ont. & Montreal, Que.

#### Vair honored

Howard Vair, president of the Associated Retail Confectioners of the United States, was presented a plaque for his service to the industry by Leon Ricelli representing the Detroit Candymakers. The presentation was made at a luncheon held in Detroit on May 13.

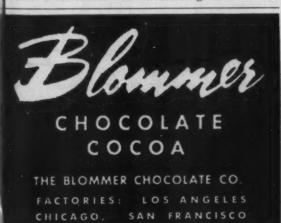
#### Barricini box wins award



First award in the confectionery box division of the 1959 set-up paper box competition sponsored by the National Paper Box Manufacturers Association, went to this eye-catching Barricini box. The bright colors and quality appearance convinced the judges that the box was ideal for attracting impulse buyers as well as gift shoppers.

#### New exec at CandyGram

Walter Henry Nelson, a former public relations executive and news editor of Radio Free Europe, has been named vice president and general manager of CandyGram, Inc. Mr. Nelson will also fill the position of assistant to the president of Stevens Candy Kitchens. Stevens manufactures the candy used in the candy-with-telegram service as well as Mrs. Stevens and Martha Washington chocolates.



#### Candy sales continue strong

The data for March sales is distorted somewhat by the early Easter. Coming almost a full month earlier than last year, it effects the dollar sales of the manufacturer-retailer group particularly. It probably tended also to depress sales of chocolate manufacturers because of their earlier shipments.

	Estimated of current and comp	month	Estimated sales year to date					
		March 1959		Percent change				
Item	March 1959 (\$1,000)	from March 1958	3 months 1959 (\$1,000)	from 3 month 1958				
Confectionery and competitive ch	000-							
late products, estimated total	. 96,146	+11	309,037	+11				
BY KIND OF BUSINESS Manufacturer-wholesalers	. 71.324	+5	241.879	+9				
Manufacturer-retailers1		+96	29,344	+45				
Chocolate manufacturers	. 11,818	-1	37,814	+5				
TOTAL ESTIMATES SALES	OF							
MANUFACTURER-WHOLESAI	ERS							
BY DIVISION AND SALES								
New England	. 8,482	+9	28,316	+7				
Middle Atlantic		+2	76,126	+14				
N. Y. and N. J	. 12,548	+3	41,188	+13				
Pa		(2)	34,938	+16				
East North Central	. 27,034	+8	90,924	+10				
m	. 24,264	+8	81,471	+10				
Ohio and Ind	. 1,829	+27	5,310	+24				
Mich. and Wis	. 941	-9	4,143	+3				
West North Central	. 2,910	(8)	8,674	-2				
Minn., Kan., S. Dak., and Net	. 1,935	-3	5,788	6				
Iowa and Mo	. 975	+5	2,886	+6				
South Atlantic	. 3,248	+9	10,077	+10				
Md., D. of C., Va., W. Va.,		1						
East South Central:								
N. Car, and S Car	. 1,340	+20	4,194	+25				
Ga. and Fla	. 1,908	+2	5,883	+2				
Ky., Tenn., Ala., and Miss	. 1,271	-2	4,226	+1				
West South Central:								
Ark., La., Okla., and Tex	. 2,496	+3	8,067	+1				
Mountain:				- 7				
Ariz., Colo., Idaho, N. Mex.,								
and Utah	. 891	+33	2,662	+21				
Pacific		-11	12,807	-9				
Calif		+13	10,242	-11				
Wash. and Ore		-2	2,565	(2)				

<sup>1</sup>Retailers with two or more outlets.

\*Less than 0.5 percent change.

	Februar March	ry 1959 1959	Pounds ( )	,000)	Value (	
Type of product <sup>1</sup>	Pounds (1,000)	Value (\$1,000)		from 1958	1959	from 1958
TOTAL SALES OF S ESTABLISHMENTS Package goods made to retail at:			2 337,472	+2	142,366	+7
\$1.00 or more per	lb 3,0	45 3,558	3 13,063	(8)	16,074	+5
\$0.50 to \$0.99 per	Ib. 8,3	74 4,74	32,294	+10	18,090	+17
Less than \$0.50 per	lb. 14,8	20 3,93	50,442	+7	13,311	+10
Bar goods	53,9	69 22,45	7 162,281	(8)	68,238	+4
Bulk goods3	12,8	16 3,56	3 49,855	-3	13,830	+3
5é and 10é special	ties 9.3	73 4.01	5 29,537	+7	12.823	+11

<sup>1</sup>A selected group of large manufacturer-wholesalers and chocolate manufacturers report sales by type of product. Companies reporting such detail account for approximately half of the sales of manufacturers.

\*Includes penny goods.

Data from monthly "Facts for Industry" of the U. S. Department of Commerce.

tioner



SHULTON NUVAN creates a full range of vanilla effects ... at a much lower cost than vanillin. Nuvan is a standardized mixture of Shulton Vanitrope® and Shulton Vanillin USP... offering up to four times the flavor strength of vanillin alone®

Both Shulton Vanitrope and Shulton Vanillin . . . blended in Nuvan under laboratory control . . . have been widely accepted—for CHOCOLATE—BAKED GOODS—CANDY—EXTRACTS—ICE CREAM—PUDDINGS.

Samples and technical bulletins available on request.



\* Huvan 17-4 times the flover strength of vanillin.

Nuvan 120-2 times the flevor strength of vanillin.

#### SHULTON FINE CHEMICALS

DIVISION OF

SHULTON, INC., 650 FIFTH AVE., NEW YORK SO, N.Y., CIRCLE 5-6263

8 - The Manufacturing Confectioner

Will with the its dent Mr. I Compers.

Jacof the nation Chase Cuming sales, pany

Vicufact April more Studi his s famil

Vident of a in Be

for .

#### Wilbur elects two

Wilbur Chocolate Company has announced the election of Rodney C. Welch and Robert G. Rowe to its board of directors. Mr. Welch is vice president in charge of production of the company and Mr. Rowe is senior vice president of Stroud and Company, a Philadelphia firm of investment bankers.

#### New exec at Bunte-Chase

Jack Cummings, formerly general sales manager of the Cracker Jack Company, has been named national marketing manager of Bunte Brothers Chase Candy Company. In his new capacity Mr. Cummings will be responsible for coordinating sales, merchandising and marketing at the company.

#### Utah manufacturer dies

Victor Clyde Cummings, 67, originator and manufacturer of Cummings Studio Candies died on April 30 at his home in Salt Lake City, Utah. For more than forty years he manufactured Cummings Studio Candies and for the past few years he and his sons have been operating the business as a family enterprise.

#### Howard Johnson VP dies

Victor Nelson, general manager and vice president of the Howard Johnson restaurant chain died of a heart attack on April 23rd while vacationing in Bermuda.

#### Curtiss shareholders meet

Curtiss Candy Company shareholders re-elected all current directors at their annual meeting and also elected Charles V. Lipps, the company's new executive vice president, to the board of directors.

#### **NEWSMAKERS**

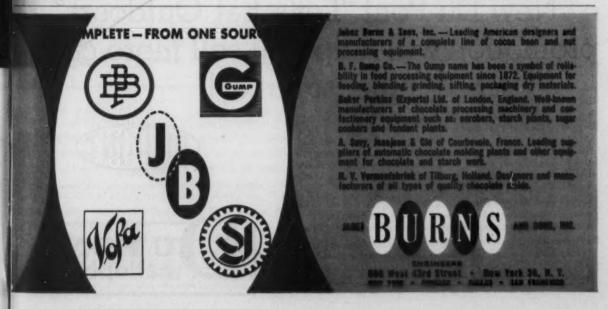
The Corn Industries Research Foundation, Inc., has appointed Robert D. McMillen, former Assistant to the Secretary, U. S. Department of Agriculture, to the newly-created post of public relations manager.

The California Almond Growers Exchange has announced that an all-time record almond crop is predicted for the 1959-60 season. Estimates exceed the former high of 60,000,000 shelled pounds reached in 1956.

E. E. Stewart has been re-elected chairman of the board of National Dairy Products Corporation and will assume the position of chief executive officer. He is succeeded as president by J. Huber Wetenhall, former executive vice president of the company.

American Viscose Corporation has opened a new distribution center for Avisco cellophane four and one half miles from downtown Dallas, Texas. The new center located at 8900 Chancellor Row, Brook Hollow will serve customers in Texas, Oklahoma and New Mexico.

John Blumenthal of the purchasing division of Fritzsche Brothers, Inc. has been admitted to the company's Quarter-of-a-Century Club upon completing 25 years of service to the firm.



tioner



Full-color spread in LIFE will pre-sell consumers



Ad in Super Market Merchandising will pre-sell retailers!

## New Du Pont "Let's Eat Outdoors" promotion will help you sell more candy this summer!

Du Pont's new "Let's Eat Outdoors" promotion—sparked by a full-color LIFE ad—offers extra support for your summertime sales. The special cook-out ad will give millions of consumers recipe ideas for using candy...help build demand for your products. And it will remind them that candy stays fresh and nourishing—tastes as good as it looks—when packaged in cellophane.

Du Pont advertising to retailers will build recognition of the selling power of cellophane-packaged candy. This promotion stresses to retailers how they can stimulate extra sales with cook-out displays.

Full-color shelf talkers of the July 6 LIFE ad featuring candy and imprinted with your selling message are available for point-of-sale displays. For the quantity you need, contact your Du Pont Representative. E. I. du Pont de Nemours & Co. (Inc.), Film Department, Wilmington 98, Delaware.



BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY



10 - The Manufacturing Confectioner

ABP

Con Dire

A m dete and

Stance The part busi

A st

Stan

Mois

Weeke Candy New P

Four Edit Techni Promot

Publica Eastern Bow

Englan

Subscrip Foreign dress, gi of Circu

for

#### the Manufacturing Confectioner

with International Confectioner

#### Contents



umers

ailers

HEMISTRY

ioner

June 1959

Volume XXXIX-Number 6

Edited and Published in Chicago

The Candy Manufacturing Center of the World



#### National Confectioners Association

Convention	Program			0							 						57
Directory of	Exhibitors										 			 			59

#### Determination of corn syrup in basic confections

A method is given for analysis of basic candies to determine percentages of corn syrup solids, dextrose and sucrose ......... E. C. Snyder and J. M. Diehl 25

#### Standard costs at Sevigny's

#### **PMCA Production Conference Reports**

A study of the consistency of caramet	William Duck 2
Cocoa bean research	.Dr. Ernest Imle 3
Food additives in Europe	. Dr. C. Nieman 3

#### 

#### Quality control: cream centers ...... John W. Vassos 75

Moisture	transmission	through	fats				R.	0.	Feuge	79	)
----------	--------------	---------	------	--	--	--	----	----	-------	----	---

Quality control: hard candies	Quality	control:	hard	candies.					M.	F.	Sherman	8
-------------------------------	---------	----------	------	----------	--	--	--	--	----	----	---------	---

Weekend Special	87	Brokers	98
Candy Clinic	89	Want Ads	100
New Packages	95	Advertisers Index	102

Founder-Earl R. Allured
Editor-Stanley E. Allured
Consulting Editor-Thomas F. Sullivan
Technical Editor-Wesley Childs
English Representative-M. G. Reade
Promotion Manager-James W. Allured
Circulation Director-M. Seelman

Publication Office: 418 N. Austin Blvd., Oak Park, Illinois. VIllage 8-6310 Eastern Office: Box 115, Glen Rock, New Jersey. N.Y. City Telephone Bowling Green 9-8976

England: Prosect House, Heath Street, London N. W. 3.

Subscription price U.S. & Canada, \$3.00 per year, \$5.00 for two years. Individual copy 50¢. Foreign Subscription prices, \$5.00 per year, \$7.50 for two years. In ordering change of address, give both the new and old address. Member Associated Publications, and Audit Bureau of Circulation.

### Free-for the asking!

Due to over-runs, extra stock, and need for more space, a number of reprints from The MANUFACTUR-ING CONFECTIONER are available to subscribers at no charge. Merely list the titles you wish on your letter head and send to us.

The Mechanics of Radiant Heat

Transfer

C. A. Mills – 1958

Low Temperature Storage of Candies J. G. Woodroof - 1957

Why They Buy Candy – And
Why They Don't
Stuart Siebert – 1955

What Is The Potential Market For Candy? Stanley Allured – 1955

Cransweets – A New Ingredient For Candy Stanley Allured – 1955

Moisture Determination at Curtiss Staff — 1955

How Curtiss Makes Compound Coatings Stanley Allured – 1955

The Functions of Carbohydrates in Confections Justin Alikonis — 1954

Packaging Chocolates at Johnston Stanley Allured -- 1954

How Do You Judge a Whipping Agent? Henika, Reger & Tenquist — 1954

Stability of Confections in Military Rations

Cosler & Woodruff - 1953

Some reprints in limited supply. Send titles on your letterhead to:

THE MANUFACTURING CON-FECTIONER, 418 N. Austin Blvd., Oak Park, Ill.

for June 1959 - 11



#### more and more people are enjoying fine products with coatings made with Durkee's Paramount

Successful confection manufacturers are specifying coatings made with Durkee's Paramount for greater year 'round customer satisfaction. You'll find that coatings made with Paramount vegetable hard butters give your product real eye appeal... real taste appeal.

Ask your regular supplier about coatings made with Durkee's Paramount—available in varying degrees of hardness to meet specific requirements of all types of confections, all types of climate conditions—Winter and Summer. Durkee's trained specialists will be glad to show you how best to use Paramount coatings for your own operation.

Coatings made with Paramount are famous for:

- o High Gloss Retention . Greater Bloom Resistance
- Greater Stability Longer Shelf Life Year 'Round Top Performance

#### DURKEE'S PARAMOUNT

LOUISVILLE, KENTUCKY . CHICAGO, ILLINOIS . BERKELEY, CALIFORNIA . NEW YORK, NEW YORK





All the before, designe Milprii for you designs Remen

Remer experie more of call yo

This ins



... a shot in the arm

for sales!

Chocolate Covered

All these attractive, shopper-stopping designs, never used before, are available to you - or Milprint's merchandising-wise designers will custom-create new designs especially for you. Milprint's design service can act as a "shot in the arm" for your candy sales . . . with distinctive, colorful, eye-compelling designs created by experts.

Remember, only Milprint can offer the combinations of experience and facilities you can count on to tell and sell more customers every hour. For more information, call your Milprint man - first!

This insert lithographed by Milprint, Inc.

Milprint MAKES PACKAGING THAT MAKES SALES

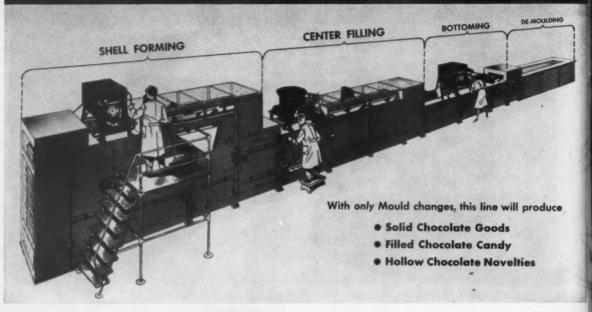
Rotogravure Printed Cellophane



#### A FULLY AUTOMATIC CHOCOLATE MOULDING PLANT WHICH YOU CAN AFFORD!



#### JUNIOR MOULDING LINE



This specially designed AASTED Junior Moulding Line will enable you to enter this newest and extremely profitable Moulded Candy market.

#### THE MASTED JUNIOR MOULDING LINE IS UNIQUE:

- Because of its unusually LOW price
- Almost any hand made piece can be duplicated on it
- Gives up to 10,000 pounds output in eight hours
- Requires only THREE operators
- Takes only 400 moulds for a complete cycle
- Single line installation . . . only 80 feet long

Other Aasted moulding lines can be custom-made to your requirements with speeds up to 60 moulds per minute for solid chocolate . . . 40 moulds per minute for filled chocolate candy.

No other moulding line can give you so much profit for so little investment!

#### AASTED CHOCOLATE MACHINE CO.

25, BLEGDAMSVEJ COPENHAGEN Ö. DENMARK



IN U. S. A.

AMAGO, incorporated 2601 WEST PETERSON AVENUE • CHICAGO 45, ILLINOIS

IN CANADA AASTED CHOCOLATE MACHINE CO. 1415 ST. MARK STREET, MONTREAL, QUEBEC

T

Ξ

ce

0

h

er

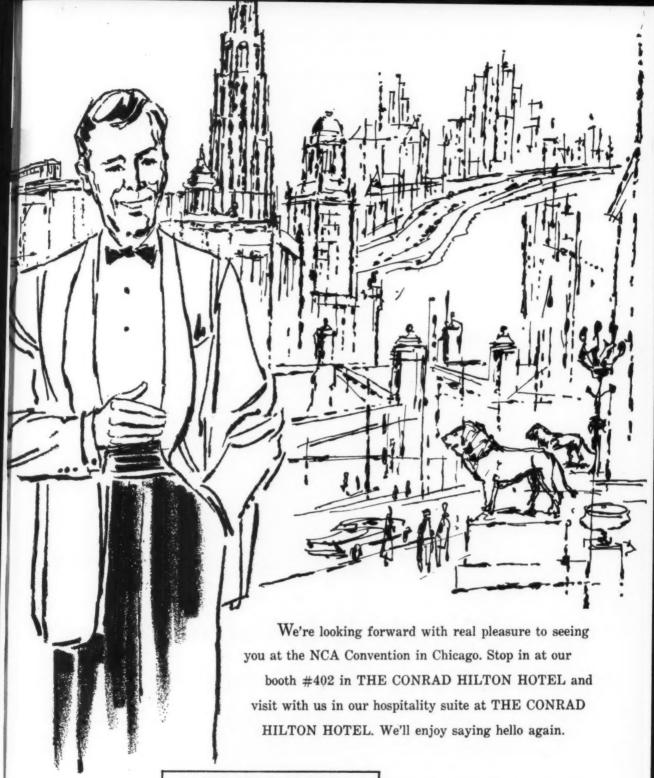
. .

rated

E CO.

tioner





#### AMERICAN MAIZE-PRODUCTS COMPANY

250 PARK AVENUE . NEW YORK 17, N. Y

SERVING THE CONFECTIONERY INDUSTRY FOR OVER 50 YEARS WITH QUALITY PRODUCTS FROM CORN

Or Our Sales Offices: ATLANTA . BOSTON . BUFFALO . CHICAGO . DENVER . GRAND RAPIDS . HOUSTON LOS ANGELES . PHILADELPHIA . PITTSBURGH . ST. LOUIS . ST. PAUL . SAN FRANCISCO . SEATTLE





#### FRITZSCHE BROTHERS, Inc.

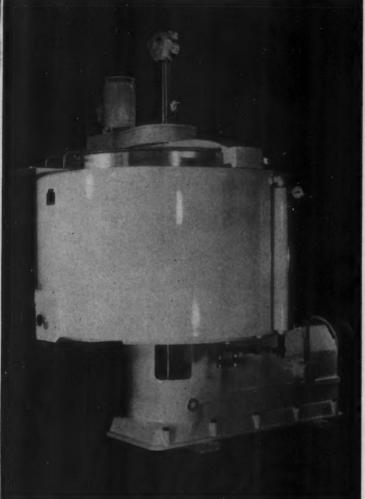
- A FIRST NAME IN FLAVORS SINCE 1871-

76 NINTH AVENUE

NEW YORK 11, N.Y.

Branch Offices and \*Stocks: Atlanta, Ga., Boston, Mass., \*Chicago, III., Cincinnati, Ohio, Greensboro, N. C., \*Los Angeles, Cal., Philadelphia, Pa., San Francisco, Cal., St. Louis, Mo., Montreal and \*Toronto, Canada; \*Mexico, D. F. and \*Buenos Aires, Argentina. Factories: Clifton, N. J. and Buenos Aires, Argentina.





### Petzholdt

The world over
the Petzholdt Super
Conche
has been accepted
in the
chocolate field

### Over 100 Installed in the United States and Canada

Head Office: Petzholdt 39-43 Schielestr Frankfurt—M Germany PH 47254 U.S. & Canada
Turbo, Inc.
2030 Norway Road
Montreal 16, Quebec
Canada
Regent 39208

tioner

#### Staley's BETTER PRODUCTS FOR BETTER CANDY



## 5 sure ways Staley's can help you improve your candies in quality, uniformity, appearance.

FOR YOUR UNMODIFIED STARCH NEEDS: Pure Food Powdered Starch (P.F.P.) is a sparkling-white, free-flowing, odor-free starch with a bland flavor. Because P.F.P. is finely ground and bolted through silk, an exceptionally high degree of purity is assured.

FOR YOUR THIN BOILING NEEDS: Confectioner's ECLIPSE "F" Starch is a modified, thin-boiling starch of high fluidity. Eclipse "F" can be cooked to low moisture content without becoming too viscous or stringy—produces a short, tender gel with definite clarity. Bland flavor. Pure white color. Odorless.

**CONFECTIONER'S ECLIPSE "G"** STARCH is similar to Eclipse "F" except offers even higher fluidity... results in faster, thinner cooking... easier deposit with fewer tailings.

FOR DUST-FREE MOULDING: Confectioner's Special Dustless Moulding Starch. Similar to Staley's P.F.P. Starch except it is specially processed to take and hold quick, excellent impressions.

FOR FINE-POWDERED DUSTING: Staley's Confectioner's Dusting Starch is a pure white, fine powdered, uniform starch with exceptional spreading properties.

For additional information on any of Staley's quality products for confectioners, call your Staley's Representative. Or write to . . .



A. E. STALEY MFG. CO

rea fork - Finageiphia - San Francisco - St. Li

for J

## This is the new RACINE EXTRUDER



- Q. What does it do?
- A. Extrudes plastic, semi-plastic materials.
- Q. Such as?
- A. Cocoanut base products, jelly, marmalade, marshmallow, peanut butter, hand roll creams, and so on.
- Q. With or without fruits and nuts?
- A. With or without as desired.
- Q. What is the big advantage of this new machine?
- A. It means you can now make "hand rolls" on a production basis.
- Q. That sounds good, does it really work?
- A. Indeed it does. We've tested this machine thoroughly in the field and incorporated every engineering advancement into it.
- Q. For instance?
- A. Well, for example, the method of extrusion utilizes a sliding blade instead of rollers. You get a gentle pressure and minimum agitation so as not to disturb the set. And, just as important, the method guarantees uniform weights and shapes.\*
- Q. What about the cost of this machine?
- A. I think you'll find the cost very interesting for a new machine of this type, particularly when you consider that the production you get out of it will pay for it in a surprisingly short time, and then go on, year after year, to pay you a profit.
- Q. Can it fit in with the rest of my equipment?
- A. It certainly can. Ask for our flow chart showing the sequence of operations needed to start a production line of "hand rolls." Attach a copy of this ad to your letterhead.

\*Even our cut-off method (spinning wire) is designed to work perfectly with sticky and tacky products.



VACUUM W RACINE

VACUUM CANDY MACHINERY CO. / RACINE CONFECTIONERS MACHINERY CO.

15 PARK ROW, NEW YORK 38, N. Y.

Office and Factory: Racine, Wis. / Eastern Factory: Harrison, N. J.

Spe-

P.F.P.

d hold

onfec-

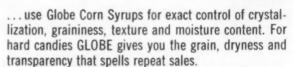
perties. quality

Repre-

CO

ctioner

whether you mak your candy hard



In marshmallows, gums, caramels and similar confections, GLOBE helps achieve the preferred degree of tenderness and chewiness. GLOBE syrups are available in a range of regular and medium conversions.

For technical assistance in selecting a type of GLOBE syrup, contact our nearest sales office or write direct.

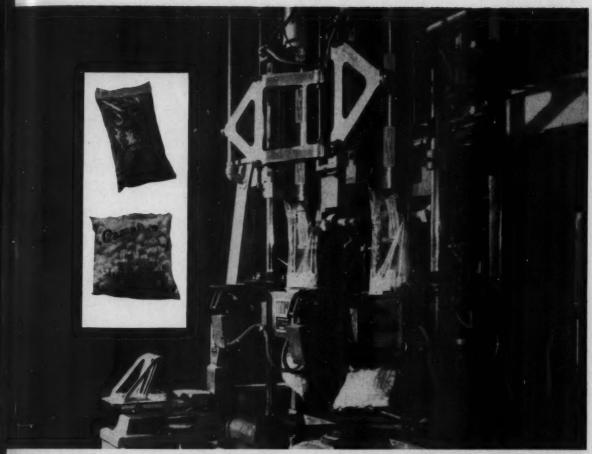
GLOBE corn syrup

Other fine products for the Confectionery Industry: REX\* corn syrup CERELOSE® dextrose sugar . BUFFALO® and HUDSON RIVER® starches.



CORN PRODUCTS SALES COMPANY · 17 Battery Place, New York 4, N. Y.





### "VISQUEEN film makes a 'Cracker Jack" package!

#### Saves us money. Gives us higher quality bags."

"Our switch to VISQUEEN 'Q' film gave us a low initial cost. We have far less breakage, too. Put together, these two savings have cut our packaging cost considerably.

"The superior clarity of VISQUEEN 'Q' film completely discloses the eye-catching, salesgenerating qualities of Campfire marshmallows and Cracker Jack popping corn.

"Vivid color printing—the best we've ever had—with no smudging or blurring, was another advantage we got with VISQUEEN film.

"We make 40 bags per minute on each of our Haysen Compak machines, which seam the VISQUEEN film sheet and heat-seal the filled bags. Milprint, Inc., Milwaukee; Color Wrap Company, Cicero, Illinois; and CelluCraft, New Hyde Park, New York, supply VISQUEEN film to Cracker Jack Co."

Steven J. Bauer Purchasing Agent Cracker Jack Co.

Write now for information or use the request tag below.



VISQUEEN film—first and foremost polyethylene film.

A product of the long experience and outstanding research of
PLASTICS DIVISION

VISKING COMPANY Division of 6733 West 65th Street, Chicago 38, Ill.



Corporation.

In Canada: VISKING COMPANY DIVISION OF UNION CARBIDE CANADA LIMITED, Lindsay, Ontario.

VISQUEEN, VISKING and UNION CARBIDE are registered trademarks of Union Carbide Corporation.

Hansella

INTRODUCES

TYPE 30 HIGH SPEED CANDY WRAPPING MACHINE



- HERMETICALLY SEALED-IN HARD CANDIES
- · EASY OPENING TAPE
- · HIGH OUTPUT
- · ECONOMICAL
- AUTOMATIC FEED
- PRINT REGISTRATION
- · EYE APPEALING

SEE US AT THE N.C.A. CONVENTION HANSELLA BOOTHS 19-20

Hansella

HANSELLA MACHINERY CORPORATION

GRAND AND RUBY AVENUES, PALISADES PARK, NEW JERSEY WHITNEY 3 4700 CABLES: COHANSELLA

ON

ioner



## THE RITTER INTERNATIONAL WORLD OF FLAVOR

Since 1876,
Ritter Flavors
have been used in the
world candy markets.
Through its world

of experience
Ritter can reproduce these
various international flavors
for you today.

#### F. RITTER & COMPANY

Ritter International

FLAVORS AROMATICS ESSENTIAL OILS COLORS

GENERAL OFFICES: 101 Goodwin Ave., Los Angeles 39, Calif Plants in Los Angeles, Chicago, III. and Anaheim, Calif



See RITTER'S INTERNATIONAL "WORLD OF FLAVOR" (Booth 14) N.C.A., Chicago



Formula for perfect flavor! There are two ways to improve the quality and consistency of the flavors you use. Choose from Kohnstamm's unique collection of assorted flavors. Or have Kohnstamm researchers create a new flavor designed specifically for your needs. Call today and learn which way is best for you.



M. KOMMSTAMM & COMPANY, INC. Established 1851

161 Avenue of the Americas, New York 13 / 11-13 E. Illinois St., Chicago 11 / 2632 E. 54 St., Huntington Pk., Calif.

Branches in other principal cities of the U.S.A. and throughout the world

larg
the
upor
lose
out
of conum
cand
tinu
acqu
sis h
whice

we corn whice cross control form

dete

syru ic se mak of e samp suga of c

of c tity nite vari

for

#### the Manufacturing Confectioner

June, 1959

Volume XXXIX-Number 6

## Determination of corn syrup in basic confections

BY E. C. SNYDER AND J. M. DIEHL. Corn Products Sales Corporation

he Corn Products Company is a supplier to a large number of confectionery manufacturers and the Technical Service Department is often called upon for technical information concerning Cerelose, corn syrups and starches and also to carry out numerous analytical tests on submitted samples of candy. Over the course of the years, a large number of methods concerned with the analysis of candy and candy ingredients have been examined and used for this work. As a result of these continuing efforts, our technical staff not only is well acquainted with classical methods of candy analysis but has also developed a number of procedures which allow convenient examination of many confections, the composition of which are difficult to determine by routine methods. As an example, we will describe a method for the analysis of the corn syrup present in basic confections, confections which are usually prepared from a mixture of sucrose and corn syrup, and the finished product contains these ingredients plus the invert sugar formed during processing.

An ideal method for the determination of corn syrup present in these products is a chromatographic separation. The application of such a technique makes it possible to determine the exact quantity of each of the component sugars present in the sample and also the amount of each component sugar in the corn syrup. Not only can the presence of corn syrup be easily established, but the quantity and type of corn syrup present can be definitely determined. Each type of corn syrup, i.e., various degrees of conversion or D.E. (dextrose

equivalent) contains dextrose, maltose, and higher polymers in very specific ratios to each other and the chromatographic procedures allow very precise determination of all of the corn syrup components. However, this analytical method is somewhat time consuming, requires specialized equipment and does demand some practice by an analyst before reliable results are obtained. There are many instances where other procedures can be used more expediently.

Since corn syrup is a mixture of dextrose and dextrose polymers, the total quantity of corn syrup solids present in a sample is equal to the sum of the component parts of the mixture. If any one of the component substances, i.e., dextrose, is added as an individual ingredient to a formulation containing corn syrup solids, the total amount of this ingredient would be too high to use in calculating for the kind or amount of corn syrup used in the formulation. Furthermore, the inversion or hydrolysis of sucrose during processing of a candy containing corn syrup adds some dextrose to the dextrose already present from the syrup. Since hydrolysis of sucrose yields equal amounts of levulose (fructose) and dextrose. this is easily accounted for in chromatographic analysis by subtracting the dextrose which came from the sucrose (equal to amount of levulose present) from the total dextrose present the balance being due to the dextrose added with the corn syrup used.

When crystaline dextrose is added to a confectionery formulation, we have dextrose coming from three separate sources 1) as such 2) that formed

.002

nd

on

ed

u.

from sucrose by inversion, and 3) that present in the corn syrup used. In this instance, the problem of determining the amount of corn syrup present becomes more difficult and only by a careful examination of the data obtained by chromatographic separation can the sugar breakdown of the candy be determined. Such a confection would contain sucrose, invert sugar, corn syrup solids, and free dextrose and we have vet to learn how to analyze such a mixture by the standard procedures using reducing sugar determinations and polarimetry.

In this particular presentation, it is assumed that we are concerned with determining the amount of corn syrup solids in a product containing sucrose, invert sugar, and corn syrup solids. It is further assumed that we are using a standard corn syrup and that the dextrose equivalent of the syrup is 43.0. The procedures described below work equally well with any corn syrup regardless of the dextrose equivalent but it is necessary to know this value before the method can be used. In its essentials, this method consists of obtaining sufficient data to set up three simultaneous equations.

The first equation involves the optical rotation of the product and obviously makes the assumption that the candy contains no optically active ingredients other than the corn syrup solids, sucrose, and invert. The optical rotation may be expressed in degrees angular rotation, 'A or in degrees Ventzke, 'V, depending upon the scale of the instrument used, a polarimeter or saccharimeter. Ventzke degrees will be used in the examples shown below:

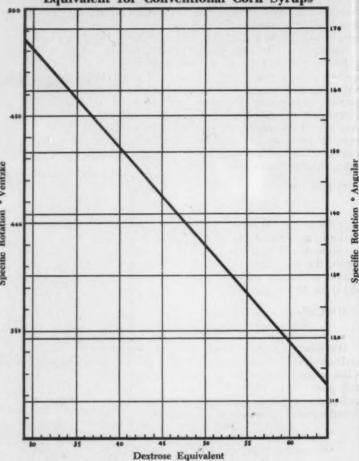
The specific rotation of sucrose is +66.5°A or +192°V and that of invert sugar is -20.0°A or -58.0°V. The specific rotation of corn syrup depends upon the dextrose equivalent and a chart is provided to furnish the necessary information. A corn syrup with a dextrose equivalent of 43.0 has a specific rotation of +147°A or +425°V.

The optical rotation of a sample is defined by the formula:

Length of Measuring grams of sample per **Tube in Decimeters** 100 ml

Note that the above equation is set up on a

Relation between Specific Rotation and Dextrose **Equivalent for Conventional Corn Syrups** 



commercial basis, i.e., the total weight of sample not just the weight of solids present is used. If, instead of total grams of sample per 100 ml, the total solids in the sample per 100 ml is used in the equation above, the specific rotation value is obtained. The optical rotation of the sample is equal to the algebraic sum of the rotations of all of the individual components and although both corn syrup solids and invert sugar are mixtures, they are treated here as individual components. Also, to avoid any difficulties due to mutarotation, the solution upon which the rotation is read is made distinctly alkaline by adding a drop or two of ammonia. Accordingly, each one percent of carbohydrate component will contribute one percent of its specific rotation to the total rotation of the unknown sample and the following equation may be set-up:

A second equation based upon the reducing power of the sample may be set up in terms of the reducing power of dextrose arbitrarily set at 100

3) W unk (100 ing ever bine 4)

perc

duci Suci

has

corn

gebi

vidu

pone

pow

Anv

may use

othe

hydi

mois

torie

natio

drie

2)

A redu

solic basis The corn then for It set 1 insta

It

dete

cific equa basis tion mak the Aı

and be a

Aı

for .

percent. This value is then referred to as the reducing power of the sample calculated as dextrose. Sucrose has zero reducing power, invert sugar has a reducing power of 95.75 and the standard corn syrup solids a reducing power of 43.0.

Analogous to the total optical rotation, the total reducing power of the sample is equal to the algebraic sum of the reducing powers of the individual components, each one percent of the component contributing one percent of its reducing power to the total reducing power of the sample. Any one of the available reducing power methods may be used for this determination. We usually use the Lane and Eynon method. Accordingly, another equation may be formulated:

2) Reducing power of sample (as dextrose) = 0.9575 (% invert) + 0.43 (% corn syrup solids)

A third equation simply involves the total carbohydrate content of the sample and involves a moisture determination on the candy. In our laboratories, the sand dish method of moisture determination is usually used. The sample is carefully dried for 16 hours at 70°C in a vacuum oven.

3) % Carbohydrates in sample =
 % sucrose + % invert + % corn syrup solids

We now have three equations containing three unknown values and the percent carbohydrate, (100 minus moisture), optical rotation, and reducing power have been determined. By expressing everything in terms of corn syrup solids, the combined equation becomes:

4) % Corn syrup solids, commercial basis = +0.755 (% reducing power) -0.556 (% carbohydrate) +0.290 (optical rotation, \*V)

It will be noted that the answers obtained by determining rotation, reducing power, and total solids are expressed and used on a commercial basis, not on a dry substance or total solids basis. The combined equation therefore gives percent corn syrup solids, commercial basis and this can then be substituted in the second equation to solve for percent invert sugar, commercial basis.

It is obvious that the entire scheme could be set up on a solids or dry substance basis. In this instance, the first equation would be equal to specific rotation instead of optical rotation, the second equation would be equal to reducing sugars, dry basis, or dextrose equivalent and the third equation would add up to one hundred percent. It makes no difference which system is used but the chosen system must be used in all equations.

An example of the equation described above, and using everything on a commercial basis would be as follows:

Analytical Results:
Optical rotation, °V = 195.2
Reducing power, % = 11.2
Solids, % = 90.0

When these values are substituted in equation # 4, this then becomes:

% Corn syrup solids, C.B. = +0.755 (11.2) -0.556 (90.0) +.290 (195.2) = 8.46 -50.04 +56.61 = 15.0

Substituting this value in equation #2 11.2 = 0.9575 (% invert) +0.43 (15.0) % invert, C.B. = 11.2 - 6.45 0.9575= 5.0

The percent corn syrup and the percent invert can now be substituted in either equation #1 or equation #3. Using #1 the following is obtained:

$$195.2 = 1.92 (\% sucrose) -0.58 (5.0) +4.25 (15.0)$$
% Sucrose, C.B. = 
$$\underbrace{195.2 -60.85}_{1.92}$$
= 70.0

If equation #3 is preferred, the following results would be obtained:

We now have the composition of the sample as follows:

Moisture, %	10.0
Corn Syrup Solids, %	15.0
Invert, %	5.0
Sucrose, %	70.0

Having this information, it is possible to get back to the probable original recipe used to prepare the product.

Five lbs. of invert came from  $\frac{342 \times 5.0}{360}$ 

lbs. sucrose and this makes a total of 70.0 + 4.75 = 74.75 lbs. sucrose. The 15 lbs. of corn syrup solids came from  $\frac{15}{80} \times 100 = 18.75$  lbs. of commercial

corn syrup at 80 percent solids. Using this information shows us that the ratio of sucrose to corn syrup is 74.75 = 4.0 and the recipe used was 4 parts

of sucrose to 1 part corn syrup.

18.75

As mentioned earlier, this method may be used in instances only where the optically active substances and the reducing substances are known. Components or sugars other than corn syrup, invert sugar or sucrose which would contribute optical activity, i.e., lactose from milk, medicinals or reducing power obviously interfere with the analysis. However, other combinations of carbohydrates may be examined and analyzed by the procedure of setting up simultaneous equations.

We have found the above described method to be quick and accurate and it is used often to check data from chromatographic separations. It is often used for hard candy analysis and for plain fondants.

for June 1959 - 27

ific Rotation \* Angular

130

178

160

sample ed. If, the sed in lue is of all a both xtures,

tation, ead is or two ent of e percion of uation

ds)
ducing
of the
at 100

ctioner

## foolproof whipping protein

...G-400 for <u>all</u>



fro

fee

the

ing

tas

Ho

to qu

qu

for

eva

the

sis

vo

be

ins

ica rel

tin me is san

for

foolproof • G-400's unvarying, uniform composition can standardize your operation

foolproof • 6-400 is constantly tested under typical confectioner's whipping conditions

foolproof • 6-400 produces small, uniform air cells...retains them for much longer candy shelf-life quality (compared to egg albumen)

foolproof • 6-400 comes ready for use, with no advance soaking needed

foolproof • G-400 dissolves instantly in either syrup or water

foolproof • G-400 whips regardless of syrup processing temperature

foolproof • G-400 shows no color change, even when stored over long periods

**Lower cost** is another major reason why more and more confectioners are specifying G-400 for their fondant and frappe type candy formulas. Also, G-400 is a nutritious, high protein product.

Test it for yourself—write today for a working sample.



GREEN GO SAST MAIN STREET PRODUCTS, SALESBURG, SLINGIS LING.

## A study of the consistency of caramel

andy, probably more than any other food, is produced for the pleasurable sensations derived from the eating of it. These pleasure sensations come from the flavor of the ingredients and the feel of the candy in the mouth. This paper deals

with this latter quality. The feel sensation of food largely depends on the quality which is called consistency. Consistency is checked by candy makers most usually by eating a sample or by squeezing or breaking a sample in the hand. It is probable that no scientific approach will ever completely eliminate some sort of taste test whether by the candy maker, the production manager or a test panel of some sort. However there has been a need for some sort of instrumentation which will assign a number scale to the quality of consistency so that production or quality control personnel can be certain and more quickly aware when adverse changes take place in batch to batch production. There is also a need for such instruments in candy research to better evaluate processing methods and ingredients, especially new possible ingredients.

Most of the early attempts at applying instruments to consistency measurements in foods depended on some sort of penetration test. The depth to which a needle, cone or disk penetrated into the food sample was measured with seldom any thought to the time or temperature involved. These tests in many cases did show variations in consistency but gave no clue to the principles involved. An example of the more recent work has been the instrument which Proctor(4) described at the Tenth Production Conference. With this instrument a candy sample was bitten by mechanically actuated dentures and the stress and strain relations produced pictorial patterns. These patterns showed differences of consistency of caramels and other candies. However mathematical evaluation of the factors involved is difficult. Martin and Mack(3) developed an instrument to measure the consistency of fudge. This instrument is based on the bending properties of a fudge sample and is carried out much the same way as one might check the fudge by bending and



by WILLIAM DUCK
PMCA Research Chemist
Franklin & Marshall College

breaking a sample by hand. The instrument however, with controlled loading forces and rates of loading, gives numerical values thus making possible the assigning of values to consistency.

Sterling(5), using a method developed to study the visco-elastic properties of rubbers and plastics, showed measurable differences in consistency factors in starch gel candies. He was able to show how certain characteristics of the starch molecules contribute to consistency of these candies.

From these results we can see the effect on viscosity and elasticity of caramel. When the highest molecular weight ingredient, milk protein with an average molecular weight between 200,000 and 300,000, is varied. The effect can also be seen when water with a molecular weight of only 18 is varied. An increase of 0.8 percent of milk protein doubled the viscosity of the caramel. The elasticity as measured by the slope of the lines decreased about 10% over the same range. The chewyness of the caramel increased very markedly with the increase of milk protein and viscosity. An increase of one percent of moisture in this range decreased the viscosity to approximately one half. Unlike the protein, the change of moisture changed the elasticity in the same direction as viscosity. A decrease of one percent moisture increased the elasticity about 12 percent.

The effect of the protein and water on elasticity and viscosity conform to what can be expected from a knowledge of these materials. The viscosity increased in each case when the average moldcular weight increased. This is what happens with solutions. Tobolsky showed that the viscosity of polymers also increased with the molecular weight. The increase of low molecular weight water decreased the viscosity. The caramel elasticity, that

e quality

tioner

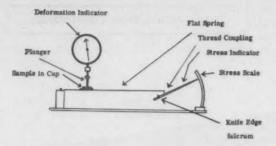
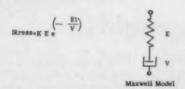


Fig. 1. Diagram of the apparatus used to measure the stress relaxation of caramel.



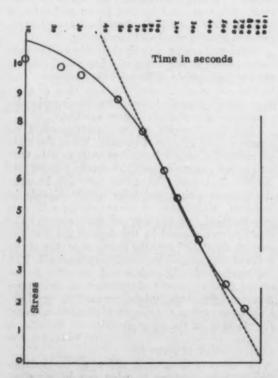
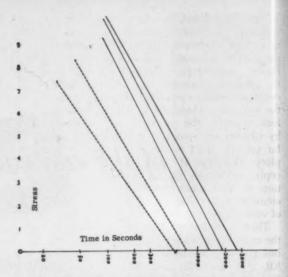


Fig. II. Maxwell model deformed to a constant value shows a decay of stress with time according to the mathematical formula shown. Plot of stress versus time gives the solid curved line shown with given values of viscosity, V, and the elasticity, E. Slope of dotted line drawn through the flat part of the solid line is proportional to the elasticity. Slope times the zero stress intercept of the dotted line (1000 seconds above) is proportional to the viscosity. Circled plotted points are values obtained from a sample of caramel with the same E and V chosen to obtain the solid line. Caramel shows close agreement with theoretical Maxwell model.



Alth

in c

proc

forn

the defo the fore

by s

far plac

cept tion elen of v

the

8.0.

find bety don con:

mel

cool nece

lost bate cool

half only exce mel

coo

cosi

Hoy

pro

that

whe

cara

pos

be

the

labo

boil

det

sho

froi

pro

sho

COL

tan

mo

sma

fect

Sur

elas

for

F

Fig. III. shows the straight lines obtained as was the dotted line of Fig. II with samples of caramel in which the milk protein and moisture were varied. The results are shown in Table I. Increased protein increases viscosity, decreases elasticity. Increased moisture decreases both viscosity and elasticity.

Table I

Milk	Milk protein	Moisture	Viscosity	Elasticity
100	3.7	8.5	4010	1.40
90	3.3	8.5	2880	1.48
80	2.9	8.5	2040	1.54
80	2.9	9.5	985	1.35
80	2.9	10.2"	640	1.12
	100 90 80 80	100 3.7 90 3.3 80 2.9 80 2.9	100 3.7 8.5 90 3.3 8.5 80 2.9 8.5 80 2.9 9.5	100 3.7 8.5 4010 90 3.3 8.5 2880 80 2.9 8.5 2040 80 2.9 9.5 985

is, the elastic resistance to deformation can be expected to decrease with increased milk protein toward the low values that can be expected for cheese which is high in milk protein. A decrease in milk protein cause the elasticity to increase toward the high values one could expect for hard candy. The size of the elastic lements and thus also the modules of elasticity increases with decreased moisture because the molecules, particularly the large protein and dextrin molecules, are closer together and entangled or bound to each other. With water molecules present these large molecules are more separated so that the elastic elements are smaller and thus the elasticity also.

Viscosity appears to be a more important factor than elasticity in the consistency of caramels. The chewyness increased with viscosity but not necessarily with elasticity. The viscosity change was also greater than the elastic change with an increase or decrease of an ingredient. This shows that any method for measuring consistency must be done at a controlled and constant temperature since viscosity varies with temperature. The consistency of the candy when consumed will also depend on its temperature. The effect of melting down in the mouth will be due in part to the warming of the caramel in the mouth, causing reduced viscosity. Tobolsky showed that elasticity,

on the other hand, is uneffected by temperature. Although elasticity appears to be less of a factor in caramel consistency it must be considered in production methods where caramel is rapidly formed and wrapped. When in such operations the caramel is wrapped too soon after forming the deformed elastic elements will push open or burst the wrappers. These elements must be relaxed before wrapping the caramel. This is taken care of by spacing the spinning and wrapping operations far enough apart to allow the relaxation to take place. The time at which the straight line intercepts the bottom line of the graph is an indication of how much time is required for elastic elements to become nearly relaxed. It is the ratio of viscosity to elasticity which determines this time.

Three samples of caramel were made up with the milk, sugar, corn syrup and moisture the same but the fat content of the finished caramel was 8.0, 10.3, and 12.6 percent. It was surprising to find almost no difference of viscosity or elasticity between these samples. More work needs to be done to show exactly what role the fat plays in consistency of caramel and what effect different melting point fats or fat like materials such as monoglycerides have on viscosity and elasticity.

The effect of prolonged heating was checked by cooking a batch two and four times longer than necessary. This was done by adding the same amount of water to the cooked batch as had been lost on boiling and then cooking again. Cooking the batch twice lowered the viscosity about 10% and cooking four times reduced the viscosity to one half of that of a batch which had been cooked only once. The elasticity was not changed by the excessive cooking. The color and flavor of the caramel were of course much changed by excessive cooking. It is probable that the reduction of viscosity was due to inversion of some of the sucrose. However there is a possibility that some of the protein was also broken down.

From the limited work here reported it appears that, within the usual ranges of ingredients used, when picking a ratio of ingredients to produce caramel the aim should be to first obtain the best possible flavor. The consistency desired can then be gained by the proper amount of moisture in the finished candy. Control of the moisture for the laboratory batches produced for this work was by boiling to the proper temperature. Drying oven determinations of moisture on the finished caramel showed only a few tenths of a percent variation from batch to batch. Cooking kettles for caramel production with a thermometer properly mounted should make possible the control of the moisture contribution to caramel consistency. The importance of proper storage and packaging to prevent moisture loss in caramel can be readily seen since small changes of moisture have such a large effect on viscosity and thus on consistency.

### Summary:

ed line in and

reased

oisture

asticity

1.40

1.48

1.54

1.35

1.12

n be

otein

d for

se in

ward

andv.

the

mois-

large

ether

vater

more

aller

actor

The

eces-

was

in-

nows

must

ature

con-

also

lting

the

ising

icity,

oner

A method is shown by which the consistency of caramel can be measured in terms of viscosity and elasticity. The visco-elastic behavior of caramel is shown to be nearly the same as an ideal Maxwell model. The viscosity appears to a more important factor in caramel consistency than elasticity when comparing the effects of ingredient variations and the chewyness of the caramel. Increased milk protein increases viscosity and lowers elasticity. Increased water decreases viscosity and elasticity. Variations in fat content have very much smaller effects on viscosity and elasticity than milk protein or water. Excessive cooking decreases viscosity but does not effect elasticity. The importance of moisture control in the finished caramel is shown.

 Fox and Flory, Jour. Am. Chem. Soc. 70, 2384 (1948)

 Mark and Tobolski, Physical Chemistry of High Polymeric Systems, Interscience Publishers (1950)

 Martin and Mack, Progress in Candy Research Report No. 31, National Confectioners Association and Southern Regional Research June (1957)

 Proctor, 10th Annual Production Conference, Lancaster, Pa. April (1956)

 Sterling, Food Research page 233 and 238 July (1957)



Conferees:
Bob Krone of
Fritzsche Brothers, Benedict
Marfuggi of Supermatic Pa ckaging Machinery
and Sam Blumenthal of Blumenthal Bros.
Chocolate Co.

Conferees:
S. Schnitzer of
Leaf Brands,
Inc., William
Schlossberg of
American Sugar
Ce. and Robert
Pulver of H.
Kohnstamm &
Co.





Conferees:
Charles A. Smylies of National
Licorice Co., A.
R. Murray of
National Licorice Co. and
Matthew Sholouski of Thos.
D. Richardson.

Conferees:
Robert C. Mamoser of Williamson Candy
Co., William R
Holtz of Crackel
Jack Co. and
William Schloss
berg of American Sugar Co.





100% PURE—
COMPLETELY EDIBLE—
HIGHLY RESISTANT
TO RANCIDITY—

Manufactured by an organization that has served the candy industry for more than 25 years, Clearlube is a member of a distinguished family of related products well known to the trade, including:

### CLEARATE

The free flowing, high quality Lecithin, made from the choicest of soya bean oil. Uniform in quality for uniform results. Complete emulsification and dispersion; unaffected by variations of formula or temperature.

### PANLUBE

A pure, highly efficient lubricant of wax-like consistency, Panlube is especially recommended where vacuum pan cooking is employed.

### CLEARATE C-C

A non-greasy emulsifier, containing Lecithin, that promotes better eating, keeping and handling qualities in confectioners' coatings. Inhibits porosity, keeping enrobed centers moist; imparts a high gloss that lasts throughout a much greater shelf life.

# Clearlube

Introduced to the candy industry little more than two years ago, this dependable Cleary product has become the preferred anti-sticking agent and lubricant in leading plants throughout the country. One application lasts for many successive batches . . . gives perfect release performance on slabs, stock pans, tubs, cookers, conveyors and scoring equipment.

Quality controlled Clearlube, containing butyl stearate, is highly stable at varying temperatures and exceptionally resistant to rancidity.

If you have not yet had the opportunity to put Clearlube to the test in your own plant, do take advantage of our Special Trial Offer: 35 lb. pail at regular drum price, 35¢ per lb.

**NEW BRUNSWICK** 



**NEW JERSEY** 

Skokie, Ill.

Belleville, Ont., Canada

**EMULSIFIERS** 

MODIFIERS

**STABILIZERS** 

vo ne d-on re-rs,

te, n-

tioner





### The Last Word in Candy Coatings



Presenting Nestlé's new Icecap candy coating that tastes as delicious as it looks, with melt-away luscious flavor that complements your cream centers, tart fruits, nut meats, jellies and chips. The soft pastel tones give a summery freshness to every type of assortment. Nestlé's Icecap Couvertures have smooth texture, long shelf life.

PETER'S · RUNKEL'S



THE NESTLÉ COMPANY, INC.

WHITE PLAINS, N. Y.



CLINTON can do it with CORN

# Zea Mays

... that which sustains life

The products from corn that are made by Clinton contribute to better living for millions

Zea Mays is derived from the Greek name for grain and the American Indian sound for "that which sustains life."

a n

tax

Thi

to 1

63

just

ceiv

coc

will

and

mai

ceri

tion

also

will

imp

the

late

sear

enc

rese

lem

printinva trop To devenual istir mos

variarea
own
prol
ACI
with
T
a re
ingt
And
and
Sch

T

The Indian used corn as food—and knew very few and simple ways to prepare it. Corn, today, is vital as a food for humans and livestock—but, the products from corn are many and it is impossible to count the ways they contribute to our better living.

There are very few products you buy that do not use a product from corn in some way. Corn sugars and starches are used extensively in food processing. Starches aid in the textile industry, and the laundry industry—the clothes you wear needed corn. Corn makes better papers and packaging boards. Corn is necessary in drugs and medicines—in beverages and bubble gum.

Corn is our business at Clinton. In our modern plant we produce the finest products from corn—under the strictest system of quality control. And, Clinton research is constantly discovering new applications for corn in the quest for better living for everybody.

Clinton serves the CONFECTIONERY Industry

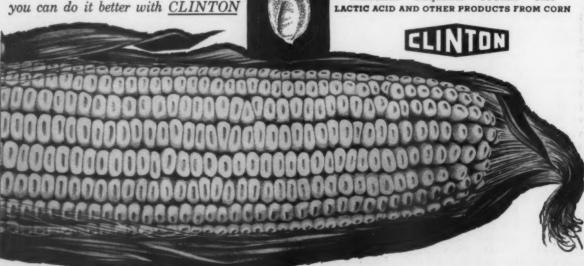
Clinton corn syrup, dextrose and starch can help you attain the edge you need in this highly competitive industry. Consult your Clinton salesman. He will provide product information, arrange for prompt technical service, or assist you in any way possible.

If you can do it with CORN



CLINTON CORN PROCESSING COMPANY
CLINTON, IOWA

CORN SYRUPS • DEXTROSE
STARCHES • DEXTRINS • SUGARS • OILS
LACTIC ACID AND OTHER PRODUCTS FROM CORN



### Cocoa bean research

(A Condensation)

ute

grain

sus-

y few

vital

prodcount

o not

s and

sing.

indry

Corn

orn is

s and

plant

er the

n re-

ns for

Y

RN

ner

he American Cocoa Research Institute (ACRI), a non-profit organization, is financed by a voluntary tax on cocoa beans and imported cacao products. Thirty-two chocolate manufacturers now contribute to the ACRI program, through the cooperation of 63 cocoa merchants, and during the fiscal year just ended \$129,884.65 in contributions was received.

ACRI believes that production of good quality cocao can be steadily increased at a cost which will allow a steadily expanding world consumption and at the same time benefit the growers, the manufacturers and the consumers. ACRI is concerned with promotion, stimulation and application of research to cacao production problems. It also promotes dissemination of information which will lead to greater efficiency of production and to improvements in quality and quantity of beans for the market. One of ACRI's basic aims is to stimulate producing countries to develop their own research and educational facilities for helping the cacao farmers. In other words, ACRI's job is to encourage the application of modern agricultural research and technology to the cacao grower's problems.

This would be a large enough order for any primitive annual crop. For a primitive tree crop, invariably grown in the least developed areas of tropical countries, it is indeed a formidable task. To tackle this big job ACRI, rather than trying to develop its own expensive institutional facilities, makes grants and establishes fellowships with existing institutions as the best means of getting the most research mileage per dollar from its resources. No single research center could handle all the varied problems anyway. There are many tropical areas in which cacao is grown, and each one has its own set of technical, political and socio-economic problems vitally affecting cacao. Thus we see that ACRI is not a series of buildings and facilities with a large research staff, as some have thought.

The present technical staff of ACRI consists of a research director, myself, headquartered in Washington; one assistant to the research director, Mr. Andre Helfenberger, headquartered in the tropics; and a part-time technical consultant, Mr. Leonard Schwartz, who formerly was research director.



by Dr. Ernest P. IMLE Director of Research American Cocoa Research Institute

ACRI operates from a small central office in Washington, D. C., from which I, as research director, travel extensively to the producing countries, especially those in which ACRI is sponsoring projects or has a particular interest.

An important function of the ACRI research director and his assistant is to develop cooperation with and obtain the help of any and all other agencies in improving cacao research.

Other functions include advice to the ACRI board of directors regarding projects for ACRI support, evaluation of results, surveys of prospects for improvements in research and production, advice to and collaboration with specialists and officials in producing countries and preparation of reports for the board of directors.

ACRI efforts at improving cacao research and productivity have been directed toward Latin America. In the original home of cacao and the natural producing area for the U. S. market, growers' problems had until recently received woefully inadequate attention and the total as well as per acre production was either static or declining in many countries until recently.

ACRI Supported Inter-American Cacao Center

The Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica was selected as an international base from which to operate technical assistance work on cacao. ACRI support made possible in 1947, the establishment of the Inter-American Cacao Center as a part of this Inter-American Institute, which in turn is a specialized agency of the Organization of American States. The Cacao Center thus enjoys an international status in tropical America, a base free from most political limitations, and one from which it can most effectively influence and assist national cacao improvement programs.

**Training of Students** 

The ACRI-supported Cacao Center's early efforts were largely concentrated on training of students in practical cacao technology and husbandry. Over fifty trainees have now been graduated from the one-year special cacao course, and most of them are still in some phase of cacao work in their own or other countries. The more recently offered, special 3-month short courses have trained an additional 76 students from 17 American countries and 7 other countries and territories, in the past four years.

**Extension Type Projects** 

There is great need for more and better extension work to cacao growers. In most countries aplication of knowledge by growers lags far behind the cacao research information already available.

The Cacao Center, in cooperation with other agencies, has helped to organize special, short courses on cacao production in Brazil and Nicaragua. They have provided a service to extension and research programs in most of the producing countries of Latin America through advisory visits, publication of technical articles, and training of extension specialists.

ACRI is compiling an International Register of Cultivated Cacao types and clones which has long been a basic need. It also has initiated adequate and comparable variety tests in key producing

areas.

ACRI surveys showed that better husbandry and pest control could substantially increase production in Brazil. As the best means of encouraging and catalyzing such an increase, ACRI support has given toward starting an extension and training project in Bahia in cooperation with Brazilian agencies and the U. S. Government technical aid program. This pioneering project, in its second year of organization, now has in operation four fully-staffed field extension offices in the cacaoproducing area of Bahia, and has plans for increasing this number to twenty or more as fast as trained agents become available.

If results from this project meet our expectations it can become a pattern for stimulating other important producing countries.

### Research

The research program at the Cacao Center has worked mainly on disease control and on propagation techniques. It is now extending its studies into the breeding of superior and disease-resistant types, planting, and research on the use of fertilizers.

The Organization of American States (OAS) has assigned to the Cacao Center the task of organizing and conducting the biennial Inter-American Technical Cacao Conferences. The seventh Conference was held in Colombia in July, 1958 and the eighth is scheduled for Trinidad in March, 1960.

University of Wisconsin

The Entomology Department at the University of Wisconsin has in progress an intensive study of cacao insects, their effect on production and their control. The Cacao Center at Turrialba provides an operation base for this work.

in

a l

pro

AC

Re

ing

ter

the

car

vita

res

suc

Co

cac

tive

tin

pro

we

of

the

bes

mo

wa

tion

as

fro

and

une

ing

tin

cor

gro

due

for

#### **Cushion Gall**

ACRI was fortunate to obtain in 1958, the services of Dr. Lee M. Hutchins, a world authority on tree diseases, to make a four-month study of a disturbing new disease called Cushion Gall. The Cacao Center serves as a base for this study also. This timely work proved so valuable and aroused such interest that we have been able to get support for it for one additional year from outside sources at no cost to ACRI. This is an example, all too unusual in crop research, of a potentially serious problem receiving attention in its early stages instead of waiting to see whether it will be widely devastating.

**Ecuador Scholarships** 

Two ACRI-supported Ecuadorean research students are at work at Pichilingue, Ecuador, investigating the commercial qualities of beans from new clones and selections, and studying the propagation problems which have slowed Ecuador's replanting program.

**Pollinating Midges** 

An ACRI short-term grant to an eminent entomologist for a two-month study of special insect midges which pollinate cacao has resulted in a recent scientific publication which can be the basis for a concerted attack on this problem.

U. S. Dept. of Agriculture

As you know, serious diseases and insects plague cacao, some of them universal wherever cacao is grown, but some of them quite restricted thus far to certain areas. There has been much justifiable concern over the possible spread of some of these diseases to areas not now infected. ACRI's director of research serves as an official advisor to the U.S. Dept. of Agriculture in developing and operating at their Miami, Florida Plant Introduction Station a disease-free, budwood garden of selected cacao clones assembled from the tropics. The procurement and quarantining of several thousands of hybrid and selected seeds from the few advanced breeding programs in the hemisphere has been undertaken. Through this service some countries can evaluate certain hybrid planting material four to six years earlier than otherwise and can move more rapidly toward improving their stocks.

### Cacao Pod Meal

An ACRI-supported study of the utilization of cacao pod meal as a feed for livestock was completed in 1958. It showed that cacao pod meal can supply between 40% and 50% of the ration for fattening steers. If it is an economic proposition it could result in a better balanced agriculture and greater economic stability in cacao growing zones.

### **General ACRI Activities**

Studies on costs of production have been made

in Costa Rica and elsewhere and have served as a basis for attracting some new capital to cacao production. New plantation ventures in Nicaragua and in Peru have received guidance and advice. ACRI has supplied information to the Philippine Republic and to the Pacific Trust Territories, where an increasing interest is developing in cacao planting. A Coffee and Cacao Research Institute, patterned after ACRI, has recently been formed in the Philippines to help growers there. The Mexican Minister of Agriculture has extended an invitation to ACRI to cooperate with them on cacao research and ACRI is now considering plans for such cooperation.

### Conclusion

vides

serv-

ority

of a

The

also.

used

sup-

tside

nple,

tially

early will

stu-

vesti-

new

ation

nting

ento-

nsect in a

basis

ague

ao is

s far

fiable

these

ector

U.S.

ating ation cacao curef hy-

nced

been

tries four

move

on of

com-

meal

ation

posi-

lture

wing

made

We must face the fact that much of the world's cacao will continue, for years, to come from primitive, improperly managed farms, and we must continue to give attention to research which can improve these old plantings. But at the same time we need to recognize that the newer generations of cacao planters should be helped to choose only the best soils, the best planting stocks, and the best methods. A gradual shift over to a sound, modern, cacao agriculture can be affected in this way.

There are some hopeful signs that modernization of cacao may not be as difficult and slow as some have always feared. Preliminary results from plant breeding trials in Trinidad, West Africa and more recently at the Cacao Center, have been unexpectedly encouraging. With superior planting material, improved management and continued research on growers' problems, we believe consumers will enjoy lower unit costs, and the growers will profit from greater efficiency of production and from vastly expanding world markets.



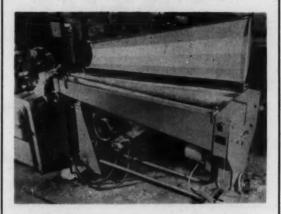
TRY THIS ON YOUR NEXT BUTTER CREAM FORMULA

"Aromanilla" vanilla-butter was developed for butter creams and has also been used with vegetable oils and hard butters for blending purposes. It is also being used successfully in fudge and butterscotch coatings.

### See The HEMA Batch Roller

At

Booths 102 and 103 (T. C. Weygandt Company)



# The HEMA Batch Roller Installed with a Latini Die Pop Machine

- Main Drive in Oil Bath
- Up to 110-lb. Batches
- Operative From Either Side
- Reversing Rollers

Elevation control is available by motor or manual.

Also on display—a 2 Stage Sizer for use with the HEMA Batch Roller.

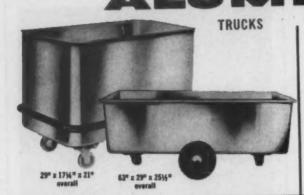
Made in Western Germany, unit is of all steel construction. Cover opens from either side without adjustments. Roller cones are of acid-proof steel, and are adjustable at exit end by hand wheel, at back end by lever.

John Sheffman, Inc.

152 W. 42nd Street New York 36, N. Y.

cut handling and storage costs ....

# WEAR-EVER





(A

sil

ce

as

ly

kn so er nu ar do ha of

P

lo

b

p w b

b

ti

iı

C

e









Now you can speed produces and analyyour handling or storage problems with standard, readily available Wear-Ever plant service items like these.

Wear-Ever's complete line of handling, storage and service equipment is constructed from specially developed, tough, hard-wrought aluminum alloys to assure longer hie.

Send for your free copy of our tree catalog showing the complete Want-Ever line.

Wear-Ever Aluminum, Inc.

508 Wear-Ever Building, New Kensington, Pa.

GENTLEMER: I'd like to learn more about ways in which

Wear-Ever's line can help me.

Send me your catalog Have your representative see me

NAME

TITLE

COMPANY

STREET.

CITY ZONE STATE

WEAR EVER ALUMINUM, INC., FOOD SERVICE EQUIPMENT DIVISION, NEW KENSINGTON, PA.

### Food additives in Europe

(A Condensation)

or some years now, government officials responsible for public health and food legislation and industrial scientists alike, have been much concerned with "food additives". In Europe as well as in the United States this subject has been vividly discussed, and the underlying problem is wellknown: chemicals, either derived from natural sources or wholly synthesized, have found an increasing use in food production to improve the nutritional value, flavor, texture or general appearance of the product; however, no additive should do this job while at the same time presenting a hazard to the consumer's health. This discussion of the problem will be limited to so-called intentional additives, namely, compounds which are purposely added to the food product.

### The conception "chemical"

Often the word "chemical" is misconcepted or loaded with false sentiment. Much damage has been done by authors who try to make believe that the word chemical means a substance which is wholly synthetic, foreign to nature, and even, of necessity, toxic. In contrast, only "natural" compounds present in vegetable and animal material would be innocuous. Only the latter type should be consumed, therefore, and all "chemicals" should be outlawed.

These "back-to-nature" people forget, however, that the word chemical should be interpreted as indicating a well-defined substance with constant chemical, physical and biological properties, whether the compound has been synthesized by nature or in the laboratory. In fact, nature is a huge synthesizing factory and there is no difference whatsoever between, for example a synthetic vitamin or the same vitamin extracted from vegetable or animal tissues. Moreover, many so-called natural foodstuffs have undergone chemical changes by merely collecting the source material, and further changes are effected by even the most simple processing procedures. Food products without additives, then, nearly always contain compounds ("chemi-



by Dr. C. NIEMAN
Netherland Association of
Confectionery and Chocolate
Manufacturers

cals") which originally were not present before processing the raw materials.

The only real difference between many synthetical compounds on the one hand, and natural products on the other hand lies in the amount of knowledge which we have about how these compounds are metabolized after ingestion. By mere empiric experience we know—at least we think we know!—that natural products generally are innocuous, and in many instances we even know enough about their fate in intermediary metabolism to base such a belief upon scientific facts. Many synthetic compounds, however, especially when not found in nature, have not yet been investigated in this respect. In those cases we cannot say with certainty that they are innocuous.

It should be appreciated that this difference is, of course, not a basic one. Many "natural" compounds have been found to contain toxic components or, under unfavorable conditions, to occasion definite injury to health. We may recall such toxic "natural" chemicals like oxalic acid in spinach, hydrocyanid acid in bitter almonds, gossypol in cottonseed oil; phasin in pulse, solanine in potatoes, goitrogenic factors in Swedish turnips and several cabbage varieties, coumarin in tonka-beans and other vegetable sources. Moreover, natural compounds perfectly safe or even essential to life when consumed in normal amounts, may induce intoxications when high doses are taken, as is the case in hypervitaminosis A, resulting from the consumption of polar bear liver.

On the other hand, many synthetic compounds have been demonstrated to be non-deleterious. Therefore, there is in fact no essential difference

ioner

between "natural" ingredients and synthetic food adjuncts: both have to be investigated as to their possible toxicity. Naturally, newly developed food additives require comparatively more toxicological research since previous experience as to their fate in the human organism may be entirely lack-

### CIIA symposia on food additives

A series of symposia on the problem of food additives was initiated by the International Commission of Agricultural Industries (Commission Internationale des Industries Agricoles, CIIA, Paris) in cooperation with the Bureau International Permanent de Chimie Analytique (BIPCA). Four symposia have so far been held, in Vienna (1955), Amsterdam (1956), Como (1957) and Paris (1958), whereas the fifth meeting is planned this year (1959) in Budapest.

One of the motions adopted in Vienna proposed to restrict an European or even international list of permitted synthetic dyes for foods to the following 7 colors: Ponceau 4R, Erythrosine (FD&C Red No. 3), Scarlet GN, Sunset Yellow FCF (FD&C Yellow No. 6), Acid Yellow, Tartrazine (FD&C Yellow No. 5). Brilliant Black BN. A second resolution stated that national legislations should adopt the principle of compulsory label declaration of all added substance to foods.

### The Amsterdam symposium

During the second symposium on food additives in Amsterdam (1956) interest centered upon the question of compulsory declaration of all classes of food additives on the label of the food product. When the principle of declaration was again put forward and affirmation of the Viennese recommendation on compulsory declaration was proposed, representatives of the food industry strongly protested and the matter was postponed and transferred to the agenda of the next symposium.

One motion adopted by the Amsterdam symposium, though not directly concerned with food additives, is of interest to the confectionery industry since it concerns the "biological integrity" of sugar. In spite of much opposition from certain quarters where refined sugar is more or less considered a pestilence for men, a subcommittee counting some industrial representatives among its members succeeded in putting through a statement in favor of sugar. This (5th) resolution stated that it would be unreasonable to favor raw sugar over refined sugar because from a nutritional point of view only negligible amounts of nutrients are lost during the refining process.

Add

bro

mit

or

sub

we

con

or

tec

len

be

bia

mi

firs

ger

ad

tox

pro

if t

ufa

ibl

tee

in

ers

sta

ad

at

a

pi

an

ap

pr

(c)

kr

ba

CO

CU ac

pe ta se re C

m fo C

> fe ti

The seventh resolution of the Amsterdam CIIA symposium stated the desirability of composing an European Food Coder.

### The Como symposium

One topic discussed at the Como symposium was flavoring materials. For this subject CIIA had created a subcommittee whose origin, however, is not very clear. There was a report by Dr. M. B. Jacobs (Bayside, New York) recommending the accumulation of data on the acute, subacute and chronic toxicity of flavoring agents. A first compilation along these lines was thereupon presented at the 4th symposium in Paris.

### The Paris symposium

At the fourth symposium on food additives in Paris (1958) one of the subjects was preservatives. It was recommended that a positive list of permitted preservatives should be drawn up.

### Joint FAO/WHO Committee on food additives

A brief review of the combined opinions of the Food and Agricultural Organization and the World Health Organization (both organs of the United Nations) on the problem of food additive is, within the framework of our discussion, pertinent since in the commission established for this purpose, the "Joint FAO/WHO Expert Committee on Food Additives", the European influence is comparatively great.

The first joint FAO/WHO Conference on Food

Some antioxidants permitted in various countries

	PG OG, DG		DUA	вна внт		
Country	Propyl gallate	Octyl and Dodecyl gallate	Butylated hydroxyanisole	Butylated hydroxytoluene	NDGA Nordihydro- guaiaretic acid	Resin guaiac
Netherlands	0.01	0.01				
Belgium	0.01	0.01	0.02	0.02		
W. Germany						
France	0.0			0.01	w v	* *
Italy	0.0			_ ::		
England	0.01	0.01	0.02	0.02		
South Africa	0.01	0.013	0.02			0.1
Denmark	0.01	0.01	0.02	0.02	0.01	0.1
Norway	0.01	0.01	0.02	0.02	0.01	
Sweden	0.01	0.01	0.02	0.02	0.01	0.1
Finland	0.01	0.01	0.02	0.02	0.01	0.1
Switzerland	0.01	0.015	0.02	.,	1.6	
Austria	0.011		0.02		0.01	0.1
Yugoslavia	0.01	0.01	0.02		0.01	3 1.10
Greece	0.01	0.01		.,		/
Canada	0.01		0.02	,,	0.005	0.2
USA	0.01		0.02	0.01	0.01	0.1

Percentages by weight of finished products given. Also butly gallate (max. 0.01%) permitted. Also decyl gallate (max. 0.01%) permitted.

Additives was convened in Geneva (1955). It brought together "representatives of national committees and representatives of inter-governmental or non-governmental groups concerned with the subject." Amongst the organizations represented were CIIA, UICC and DFG. The report (7) of this conference recommended, among others, that one or more expert committees concerned with the technical and administrative aspects of the problem should be established, and that priority should be given to food colors, preservatives (antimicrobial agents as well as antioxidants), and emulsifiers.

lustry

ugar

arters

red a

some

Suc-

favor

rould

fined

view

dur-

CIIA

osing

sium had

r, is I. B.

the

and

pilad at

s in

ves.

per-

the

orld

ited

hin

nce

the

bod

ıra-

ood

iac

er

As a result, the Joint FAO/WHO Expert Committee on Food Additives was created, and met in Rome (1956) and in Geneva (1957). In their first report (8) this committee laid down some general principles pertaining to the use of food additives. These are not to be used a) if they are toxic, b) if their function is to disguise faulty processing or substandard quality, c) if they cause a substantial decrease in nutritive value, and d) if the desired effect may be obtained by good manufacturing practices which are economically feasible.

As regards legislation, the FAO/WHO committee favors so-called "positive" lists, namely, a listing of permitted food additives excluding all others. As to the problem of label declaration a simple statement of the presence of a particular class of additives is considered adequate.

In their second report (9) the committee aimed at giving to those "engaged in the field, in either a scientific or an administrative capacity, a general picture of the data that should be available about any additive before its use in food is officially approved." This report also commented upon procedures for acute, short-term and long-term (chronic) toxicity studies. In certain cases, a good knowledge of the metabolic fate and biochemical effects of a food additive may supply a satisfactory basis for recommendations on safety for use.

Recently, a third meeting of the FAO/WHO committee has been held in Rome (1958) to discuss the specifications to be drawn up for food additives, namely, the establishment of maximum permissible levels for impurities. It seems that tentative specifications have been established for a selected group of antimicrobials and antioxidants.

There is some concern about the resolutions and recommendations which are channeled through CIIA, WEE, UICC, WEU, DFG and others to FAO and WHO, and it is hoped that these are not always considered to be representative of the food industries' views.

### **Common Market problems**

It is clear that the European Economic Community or Common Market now in operation calls for further cooperative activities by health authorities and industrialists alike. Legal problems related to both food standards of identity and quality, and to the permissibility of food additives, are to be solved. Since the Common Market provides for a free flow of food products between the par-



### **G D Supermatic**



Model 5000

# Automatic Adjustable Wrapping and Packeting Machine for Square Candy



Speeds from 360 individual pieces per minute or from 36 packs per minute.



See it at Booth 410 NCA. Chicago

SUPERMATIC PACKAGING CORP. 1460 Chestnut St. Hillside, New Jersey

DESIRATE A STATE OF THE STATE O

ticipating countries (Belgium, France, Germany, Italy, Luxembourg and the Netherlands) and free enterprise should not be hindered by national laws, food products considered sound and safe in one country should be legal, too, in the other countries. This will require several changes in the individual national food laws, the so-called "harmonization" of food standards and other regulations.

In fact, it is expected that some unification of the legal aspects of confectionery will soon become a necessity in the Common Market countries, the more so since no other food sector in Europe is so much diversified as to the kinds and nomenclature of their products.

### Cooperative efforts of industry

Cooperation between food industries on an international level in Western Europe, relative to food standards and regulations concerning food additives, has not amounted to much in the past. For several raw materials and finished goods international bodies exist, and in the confectionery field there is the International Association of Confectionery Manufacturers. However, perhaps because on a world-wide scale there are too many divergencies between national standards and even definitions in the candy field, no efforts have as yet been made to reach some sort of unification.

### Literature references.

 H. Frenzel, "Ein europaisches Lebensmittelbuch", Proc. 2nd. Symp. Food Additives, Amsterdam 1956), p. 162

 L. Villanúa, "Codex Alimentarius Europaensis", Proc. 2nd. Symp. Food Additives, Amsterdam (1956), p. 172

 Deutsche Forschungsgemeinschaft, "Ergebnisse einer Tagung westereuropaischer Wissenschaftler zur Prophylaxe des Krebses", Bad Godesberg (1954)

 A. C. Frazer, Proc. 3rd. Int. Congr. Nutrition, Amsterdam (1954)

 J. L. Hartwell, "Survey of compounds which have been tested for carcinogenic activity", Bethesda (1951)

 P. Rofe, "Azo dyes and Heinz bodies", Brit. J. Ind. Med. 14, 275 (1957)

"Joint FAO/WHO Conference on Food Additives", WHO Techn. Rep. Ser. No. 107, Geneva (1956)

 "General principles governing the use of food additives", WHO Techn. Rep. Ser. No. 129, Geneva (1957)

9. "Procedures for the testing of intentional food additives to establish their safety for use", WHO Techn. Rep. Ser. No. 144, Geneva (1958)

# Standard analysis methods in the European confectionery industry

by Dr. C. NIEMAN

The International Association of Confectionery Manufacturers, founded in 1953 in Paris, decided during their second general assembly in London (1954) to set up a technical committee consisting of chemists and other experts from the confectionery industries of the participating countries. This expert committee was commissioned to propose standard methods for the analysis of raw materials and finished confectionery goods. Main objective was to adopt or develop methods of analysis suitable for use in settling disputes between various parties, such as between suppliers of raw materials and processors, between producers and importers, and between manufacturers or importers and customs authorities. Also standardized methods should be of value in comparing the results of analytical work or general research in the confectionery field, and in establishing standards of identity and specifications for raw materials.

The experts committee's activities started in May, 1955, when preliminary proposals as regards the general approach and a provisional list of analytical subjects were circulated. The committee there-

upon held three official meetings in Paris (1955), in Rome (1956) and in-Wiesbaden (1957), whereas a fourth meeting is planned this year (1959) in

According to the general policy adopted from the start, advantage has been taken of existing standard methods as developed by other national or international agencies, in that these methods as far as they appeared acceptable to the expert committee, have been tentatively or definitely adopted for the confectionery field. This has been done so far for methods issued by the following bodies:

ICUMSA: International Commission for Uniform Methods of Sugar Analysis

IOCC: International Office for Cocoa and Chocolate

FIL: Federation Internationale de Laiterie PI: Pharmacopoeia Internationalis (WHO) BFMIRA: British Food Manufacturing Industries Research Association

BSI: British Standard Institution
AOAC: Association of Official Agricultural
Chemists (USA)

ttel-Am-

sis", dam

nisse naftperg

hich ity",

t. J.

ddineva

food 129,

food HO

try

955), reas

crom cting onal hods pert itely been ving

orm

hoc-

rie (O) ries

iral

oner



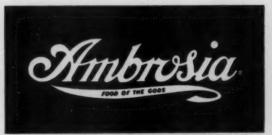


your finest candies

quality

# Chocolate Coatings

Ambrosia food of the gods Coatings are your assurance of the final touch of quality for your finest candies. Choose from Milks, Vanillas, Bitter Sweets, or Fondant Chocolate Coatings.



For samples and more information write to:
AMBROSIA CHOCOLATE COMPANY



The standard methods adopted or still under investigation by the export committee are reviewed in the original sequence.

### I. Refined Sugar

 Moisture. Adopted the ICUMSA method (1) whereby a quantity of 10 grams is dried to constant weight in a vacuum oven at 60° C in metal dishes.

2. Ash. Adopted the ICUMSA method (2,3), namely, "gravimetric ash by double sulphation" whereby approximately 5 grams of sugar are sulphated, heated in a furnace at approx. 550° C, re-sulphated, and re-heated at 800° C until the weight is constant; the practice to deduct 10% of the weight is discontinued.

3. Invert sugar. Adopted the ICUMSA method
(4) as developed by the Whalley (5,6,7)
whereby 7 grams of refined sugar are heated
with methylene blue reagent and the final
color of the reaction mixture is compared
with ammonical copper sulphate solutions
standardized against known concentrations of
invert sugar; as little as 0.001% of invert
sugar in sucrose may be determined in this

way.

4. Grain size (grist). Initially recommended the ICUMSA tentative method (8) as described by Powers (9), and thereupon the German method of Rammler (10) which has the advantage that the results of the screen test are independent of the characteristics of the sieves used.

5. Color. Recommended the ICUMSA tentative method (11) whereby a solution of 50% refractometer solids is measured in a 10 cm thick cell at the wavelengths 420 and 720 mu, and a "color index" is calculated from the transmittancies observed.

6. Buffer power. Recommended the ICUMSA tentative method (12) whereby the buffer capacity (number of ml of 0.1 N hydrochloric acid to be added to 1 L of a 25% w/w aqueous sugar solution to bring the pH to 4.0) is determined according to Hinton (13), and 0.8 ml is deducted to eliminate the apparent buffer effect of distilled water following the suggestion of Fincke (14), the figure so corrected to be known as "reduced buffer power".

 Sulfur dioxide. Adopted the ICUMSA method for which the Monier-Williams method (15) provides a standard procedure.

8. Foaming tendency. Adopted the BFMIRA method (16) which is essentially the method of Bikerman (17) whereby a stream of small bubbles of air is drawn up through a 40% sugar solution by means of a sintered glass crucible, and the height of the foam induced is measured in a graduated tube.

 Candy test. Initially recommended the socalled "candy test" of the U.S. National Bureau of Standards (18). Since, however, this method is rather laborious it has later been r inwed

(1) d to o C

2,3), ohasue at ated the

hod 6,7) ited inal ired ions s of vert this

ded dethe has een tics

nta-60% em 720 om

SA ffer iro-5% pH ton ate tter the ced

RA thord of am be. sso-bis een

ner

ALI

ew... igh F STA

> 30 30

# Each machine is the

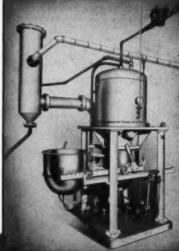
# LEADER

in its field of operation!

OGUL MODEL CM 2000



A completely new concept of high speed, precision, unprecedented economy of operation!



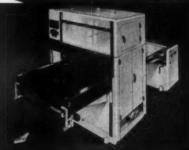
HIGH SPEED, HIGH GLOSS
CONTINUOUS HARD CANDY
VACUUM COOKER
with BLENDER & PRE COOKE

KING SIZE MODEL
Up to 3,000 lbs. hourly production

STANDARD MODEL Up to 2,500 lhs. hourly production



STAINLESS STEEL
SANITARY
SUGAR SANDER



HIGH GLOSS, CLEANLINED

lgh Production
STAGGERED ROW"
DEPOSITING SYSTEM

VISIT OUR
BOOTH NOS.
30-31-32-33-34

N. C. A.
CONFECTIONERY
EXPOSITION
JUNE 7th-11th
Conrad Hilton Hotel
Chicago

National Equipment has been proved by the only real test...years of tested and proven dependability in candy plants all over the world, where the demand for top efficiency and top quality is a must.

These candy manufacturers will tell you, "You'll save money in the future and increase profits when you buy National Equipment NOW!"

NOW IS THE TIME TO BUY!

EQUIPMENT CORPORATION

153-157 Crosby Street New York 12, New York CAnal 6-5333-4-5-6 167 North May Street Chicago, Illinois SEely 3-7845







ENTRAPPED" FLAVORS SPICE EXTRACTS

### FOOD MATERIALS CORPORATION

Factory and Laboratories / 2521 west 48th street . Chicago 32, Illinois Eastern Office / 264 west 31st street . New York 1, New York

recommended to study the method of Vollaire-Salva for glucose syrup (Method IV, 8), and also a German method whereby dry sugar is heated at 175° C.

10. Sediment. Recommended the standard method of the American Bottlers of Carbonated Beverages whereby a sugar solution is passed through a filter-disc which, after drying, is compared with a series of sediment standards prepared with known amounts of finely ground sugar vacuum pan scale in distilled water. Since the use of pan-scale for this purpose has not been found satisfactory, another method now in use at the laboratories of Tate & Lyle is under examination.

II. Lower Grade Sugars.

1. Moisture. Adopted the ICUMSA method used for refined sugar (Method I, 1).

2. Ash. Adopted the ICUMSA method as used

for refined sugar (Method 1,2).

3. Sucrose. Tentatively recommended the determination of reducing sugars before and after inversion, the inversion being carried out by either hydrolyzing with 0.1 N hydrochloric acid or incubating with invertase; the content of reducing sugars is determined by one of the generally accepted volumetric methods, for instance according to Luff-Schoorl (19), Lane-Eynon (20-21), or Potterat-Eschmann (22).

4. Color. Recommended the ICUMSA tentative method (23) whereby a sugar solution of suitable concentration filtered through kieselguhr and adjusted to pH=7.0 is measured at the wavelength 560 mu, and a color index is calculated from the observed trans-

mittancy.

III. Invert Sugar.

1. Dry substance. Adopted the ICUMSA method (24) whereby for refractometric determination of invert sugar solutions containing no undissolved sugar and having a low sucrose content, the International Scale (25,26) is recommended, whereas for higher sucrose content interpolation can be made between this scale and that for sucrose (27,28).

2. Ash. Adopted the ICUMSA method as used for refined sugar (Method 1,2).

3. Sucrose. Tentatively recommended the existing volumetric methods for the determination of reducing sugars before and after inversion, as recommended for unrefined sugars (Method II, 3).

4. pH. Recommended a modified ICUMSA method whereby a 50% (w/w) aqueous solution is measured with a glass electrode.

IV. Glucose Syrup.

1. Dry substance. Recommended to await the results of studies by ICUMSA on this subject. A study will be made of the comparative results of some methods, namely, vacuum drying, azeotropic distillation with toluene or perchlorethylene, and Karl Fischer 2. Ash. Recommended the ICUMSA method as used for refined sugar (Method I, 2).

 Color. Provisionally recommended the IC-UMSA method as used for refined sugar (Method I.5).

 Sulfur dioxide. Recommended the ICUMSA method as used for refined sugar (Method I.7).

 Carbohydrate constituents. Recommended to await the results of a study by ICUMSA on this subject. Chromatographic technique and selective fermentation methods should

be helpful.

ol-

IV.

dry

th-

ted

SS-

ng,

nd-

ely

led

nr-

her

of

bo

sed

de-

ind

ied

ro-

the

by

ric

ıff-

ot-

ta-

ion

igh

as-

lor

ns-

th-

mi-

ing

S11-

26)

ose

sed

ist-

na-

ter

su-

SA

so-

the

ub-

ra-

ely,

ith

her

ner

 pH. Recommended to use a glass electrode on either a 50% (w/w) solution or the syrup as such, the former value to be deducted with 0.2 to give corresponding results.

7. Acidity. Initially recommended the AOAC method (29) whereby a solution of 50 grams of syrup dissolved in 200 ml of water is titrated with 0.1 N sodium hydroxide using phenolphtalein indicator, and the result is calculated in terms of hydrochloric acid. Latest recommendation is to titrate to pH=7, either electrometrically or with the aid of a suitable indicator.

8. Color production on heating. Recommended a "candy test", corresponding to the method suitably modified. Recommended for study the method of Vollaire-Salva (30) whereby glucose syrup is heated for 15 minutes at 130° C, and the resulting color is compared with a series of standard solutions containing iodine and sodium permanganate. Both Germany and England favor a higher heating temperature, however.

Foaming tendency. Recommended the BF-MIRA method as used for refined sugar

(Method 1,8).

 Protein. Recommended the microkjeldahl method for nitrogen (31) or the methods according to Ambler and Byall (32), Charlot and Gauguin (33), or the latter in the Fostier modification.

#### V. Condensed Milk.

 Dry substance. Recommended the method proposed by FIL whereby condensed milk is diluted with water and dried on sand at 98-100° C.

 Fat. Recommended the method proposed by FIL whereby the condensed milk after mixing with concentrated ammonium hydroxide and 96% alcohol is extracted with a mixture of ethyl ether and light petroleum of 40-60° C boiling range.

3. Ash. Recommended the method proposed by FIL whereby charring and ashing in an electric muffe oven at 550° C is applied

4. Protein. Recommended the method proposed by FIL based upon the macrokjeldahl method for nitrogen.

Sucrose. Recommended the method proposed by FIL whereby after testing for the FOR COOLING SLABS • BAND OVENS •
BELTS • TRAYS • PANS

### **CONFECTO GREASE®**

RELEASING COMPOUND

- CONTAINS NO MINERAL OIL, NO ANIMAL FATS
- DOES NOT TURN RANCID
- ECONOMICAL TO USE
- . EASILY APPLIED CAN BE SPRAYED

For more information about CONFECTO GREASE® write to

### International Foodcraft Corp.

184 North 8th Street

Brooklyn 11, New York



Rhinelander Glassine paper keeps candy fresh...in appearance and taste. Provides versatile protection in candy packaging. Glassine is economical, prints well and performs smoothly on automatic packaging equipment.

Rhinelander Glassine is available in a wide variety of glossy sales appealing colors . . . embossed, opaque and translucent grades. Write for samples.



RHINELANDER PAPER COMPANY . RHINELANDER, WIS.

Division of St. Regis Paper Company

absence of monosaccharides by means of a modified Barfoed reagent and deproteinizing, polarization before and after inversion is applied; if sucrose has been partially broken down, another method (34) is recommended.

### VI. Dried Milk.

1. Moisture. Recommended the method of FIL whereby the milk powder is dried at 102-

103° C to constant weight.

2. Fat. Recommended the method of FIL whereby the milk powder is boiled with ammonia and hydrochloric acid, and fat is thereupon extracted with a mixture of ether and light petroleum.

4. Ash. Recommended the method of FIL whereby ashing at 550° C is applied.

- 5. Alkalinity of ash. Recommended the method of FIL whereby the ash, after addition of calcium chloride, is dissolved in hydrochloric acid and is thereupon titrated with standard alkali with phenolphtalein as indi-
- 6. Titratable acidity. Recommended the method of FIL whereby the powder is titrated with standard alkali on phenolphtalein until by comparison the color matches the pink tint of a blank containing rosaniline acetate.
- 7. Solubility index. Recommended the method of FIL, corresponding to the standard method of the American Dry Milk Institute (35) and suitable for spray dried milk; for roller dried milk this method is considered too insensitive.
- 8. Bulk density. Recommended the method of FIL whereby 20 grams of the milk powder is filled into a measuring cylinder and the volume occupied is observed.
- 9. Sediment. Recommended the method of FIL whereby a reconstituted milk is visually examined.

VII. Confectionery fats.

1. Acid value. Recommended the method of PI giving the number of mgs of potassium hydroxide required to neutralize the free acid present in 1 gram of the fat, and determined by titrating with phenolphtalein as indicator.

2. Melting point. Recommended the methods of IOCC, namely, the capillary-tube method of Fincke (36) and the mercuy method

of Hinton (37).

3. Solidification point. Though there is some doubt as to the usefulness of this test for fats other than cocoa butter, two methods are recommended, namely, the method of Vaeck and the method of Jensen (38).

4. Peroxide value. Adopted the latest modification of the method of Lea (39) whereby in oxygen-free medium the oxidation of a known quantity of saturated sodium iodide solution, added to the fat, is estimated by back-titration with sodium thisulphate.

5. Preservatives and antioxidants. This subject has been recommended for further study, for instance the methods of Kahan and associates (4) for the evaluation of butylated hydroyanisole, propyl gallate and nordihy-

droguaiaretic acid.

VIII. Gelatine. 1. Jellying power. Adopted the standard method of BSI (41) using the Bloom gelometer.

2. Color. Adopted the BSI method (41) whereby the color of a 6.66% (w/w) gelatine gel is measured in Lovibond units.

3. Sulfur dioxide. Adopted the method of BSI (41), based upon the method of Monier-Williams.

4. Arsenic. Adopted the BSI method (41) whereby arsenic is set free and thereupon estimated by means of the so-called Gutzeit test.



5. Heavy metals. Adopted the methods of BSI (41), and all other methods of BSI for any other determination in gelatine.

IX. Agar.

1. Jellying power. Initially recommended to compare the BSI method for gelatine (Method VIII,1) as applied to a 1% agar gel, with the BFMIRA method using the FIRA jelly tester (42); however, since no significant correlation between the two instruments has been found, the application of the Bloom gelometer to sugar-containing agar jellies will be further examined.

Solubility. This subject is still pending since it is doubted whether there is a pertinent

need for a method.

 Arsenic. Adopted the standard method of BSI as used for the determination of arsenic in gelatine (Method VIII,4).

4. Heavy metals. Adopted the standard methods of BSI as used for gelatine (Method

VIII,5).

### X. Cocoa Powder.

 Moisture. Adopted the standard method of IOCC (43) whereby cocoa powder is mixed with sand and is dried at 100-101° C in a well-ventilated oven.

 Ash. Adopted the standard method of IOCC (43) whereby cocoa powder is ashed at 500-

600° C.

 Alkalinity of ash. Adopted the standard method of IOCC (43) whereby a known quantity of acid is added to the ash and back-titration with sodium hydroxide is applied, using bromocresol green as indicator.

 Fatty matter. Adopted the standard method of IOCC (43) whereby the fat is liberated with hydrochloric acid, and is thereupon ex-

tracted with light petroleum.

 Trace elements. Recommended to request IOCC for standard methods for arsenic and lead. In the determination of metals special care should be given to potential losses during ashing.

XI. Other Raw Materials.

 Pectins. Tentatively adopted the BFMIRA method (44) for the determination of the jellying power.

 Tragacanth. Tentatively adopted the method of the Society of Public Analysts and Other Analytical Chemists (45,46) for the

determination of the viscosity.

Essential oils and flavors. This subject has been recommended for study.

#### XII. Finished Goods.

 Moisture. Recommended for study several methods, such as the AOAC method (47), azeotropic distillation with toluene xylene or trichlorethylene according to Dean and Stark (48) or with the Schetty apparatus, the Karl Fischer titration, drying with alcohol of acetone followed by ovendrying at approx. 103° C, or methods based upon determination of the density. To avoid losses of moisture the sample should be desintegrated in a polyethylene bag.

2. Sucrose. Recommended to await the results of investigations carried out by IOCC on the method of Potterat-Eschmann (49) for chocolate, since the method might be used, too, for confectionery. Also recommended to study existing methods for the determination of reducing sugars before and after inversion, the inversion being carried out by either acid hydrolysis or with invertase.

Levulose and invert sugar. Initally recommended the method of BFMIRA (50) whereby aldose sugars are oxidized with hypoiodite and the remaining levulose is determined by adding Luff reagent and titrating the cuprous oxide formed according to the method of Schaffer and Hartmann (51).

 Glucose syrup. Since this is a rather difficult subject, further study is recommended. It has



od of ssium free d deein as

thods methethod some

st for thods od of difica-

of a odide ed by

abject study, ad asvlated rdihy-

methneter. wherene gel f BSI

(41) eupon Gut-

onier-

flavor nimum. ans of rching, pasting acking. csures de nib aration

E, INC.

γ.

tioner

been suggested to try, after inversion, polarization at 87° C at which temperature invert sugar supposedly shows no optical activity.

 Lactose. This subject, too, has been recommended for further examination. Both chromatographic and microbiological procedures (see, for instance, 52) might be useful.

- 6. Fat. Initially recommend for chocolate the standard method of IOCC, and for other products the method of BFMIRA (53), based upon a British method for flour confectionery (54) whereby the sample is treated with alcohol and hydrochloric acid, heated at 50° C, and extracted with a mixture of ether and light petroleum. The modification of Wiseman has been adopted.
- 7. Milk fat. Recommended the Reichert-Polenske-Kirschner method, for instance in the modification of Dyer et al (55), and the semi-microbutyric acid method; the latter, in the Grossfeld modification, will be studied for butter fat, cocoa butter, and mixtures of both fats.
- 8. Ash. Recommended both methods of AOAC (56,57) whereby incineration at 525° C is performed.
- Nitrogen. Recommended the standard method of AOAC (58) corresponding to the macrokjeldahl method. Also recommended for study the method of Janssen (59) for the determination of milk solids in chocolate; this method is, however, not satisfactory for toffees.
- 10. Acidity. Recommended a method based upon the AOAC method (60) for cordials whereby titration is carried out to an end point of pH=7, taking care that the temperature does not rise above 40° C.
- Glycyrrhizin. Tentatively adopted the gravimetric method according to Houseman (61).
- 12. Other components. Recommended for study several methods for other components, such as various customs methods for alcohol, the BFMIRA method for paraffin (adopted), and methods for the estimation of gums. The standard filth test of AOAC (62) is recommended.



 Trace elements. Recommended for study methods for arsenic, lead, copper, and other elements. 31

32

35

### XIII. General Methods.

 Sampling. Recommended for further study sampling methods for various raw materials and finished goods. For sugar, cocoa powder, and chocolate, and for condensed and dried milk the standard methods of, respectively, ICUMSA, IOCC, and FIL have been recommended whereas for glucose syrup the BSI method for fats and oils is recommended.

### Literature references.

- 1. ICUMSA, Report of the proceedings of the ninth session (1936), p. 36
- 2. ICUMSA, Report of the proceedings of the tenth session (1949), p. 5
- 3. ICUMSA, Report of the proceedings of the eleventh session (1954), p. 13
- 4. ICUMSA, Proceed. p. 19 (1954)
- H. C. S. De Whalley, Intern. Sugar J. 39, 300 (1937)
- H. C. S. De Whalley, Intern. Sugar J. 46, 211 (1944)
- E. J. McDonald, J. Am. Assoc. Off. Agric. Chem. 35, 648 (1952)
- 8. ICUMSA, Proceed. 9.86 (1954)
- H. E. C. Powers, Intern. Sugar J. 50, 149 (1948)
- E. Rammler, Forsch. u. Fortschr. (Berlin) 30, 1 (1956)
- 11. ICUMSA, Proceed. p. 62 (1954)
- 12. ICUMSA, Proceed. p. 87 (1954)
- 13. C. L. Hinton, Intern. Sugar J. 51, 222 (1949)
- 14. A. Fincke, Intern. Sugar J. 55, 222 (1953)
- AOAC, Official methods of analysis, 8th. ed., Washington (1955), p. 507
- Intern. Assoc. Confectionery Manuf., Report of the General Assembly, Amsterdam (1955), p. 104
- 17. Bikerman, Trans. Faraday Soc. 34, 634 (1938)
- F. J. Bates et al, "Polarimetry, Saccharimetry and the Sugars", U. S. Bur. Standards Circ. C440, Washington (1942) p. 371
- 19. N. Schoorl, Z. Unters. Lebensm. 57,566 (1929)
- J. H. Lane, L. Eynon, J. Soc. Chem. Ind. 50, 85T (1931)
- AOAC, Official methods, Washington (1955), p. 544
- 22. M. Potterat, H. Eschmann, Mitt. Gebiete Lebensm. Unters., 45, 312 (1954)
- 23. ICUMSA, Proceed. p. 63 (1954)
- 24. ICUMSA, Proceed. p. 19 (1949)
- F. W. Zerban, Martin, J. Assoc. Off. Agric. Chem. 27, 295 (1944)
- 26. AOAC, Method of analysis, Washington (1955), p. 888
- ICUMSA, Proceed. p. 22 (1936); Int. Sugar J. 39, 22s (1937)
- 28. AOAC, Methods of analysis (1955), p. 884
- 29. AOAC, Methods of analysis, Washington (1955), p. 566
- J. Volaire-Salva, Choc. Confiserie France 97, 18 (1955)

31. AOAC, Methods of analysis, Washington (1955), p. 805

32. Ambler, Byall, Ind. Eng. Chem. An. Ed. 4, 34 (1932)

33. G. Charlot, R. Gauguin, "Dosages colorimetriques", Paris (1952), p. 109

34. The Analyst 57, 650 (1932)

tudy

other

tudy

erials

vder,

dried

vely,

rec-

the

com-

the

the

the

300

211

gric.

149

30,

949)

ed.,

t of

, p.

938)

etry

Circ.

29)

50,

55), Le-

ric.

ton

r J.

ton

97,

ner

35. American Dry Milk Institute, Bulletin 913, Chicago (1955), p. 26

36. H. Fincke, "Handbuch der Kakaoerzeugnisse", Berlin (1936), p. 480

37. C. L. Hinton, Intern. Choc. Rev. 9, 161 (1954)

38. H. R. Jensen, "The chemistry, flavouring and manufacturing of chocolate confectionery and cocoa", London (1931)

39. C. H. Lea, J. Soc. Chem. Ind. 65, 286 (1946)

40. S. Kahan, J. Assoc. Off. Agric. Chem. 35, 186 (1952)

41. BSI, "British standard methods for sampling and testing of gelatins", No. 57 (1944)

42. The Analyst 81, 243 (1956)

43. IOCC, Cir. Périodique No. 24 (May 30, 1953)

44. Pectin Sub-Committee, Analyst 6, 536 (1951) 368 (1948)

46. Analytical Methods Committee, Analyst 74, 2. (1949)

47. AOAC, Methods of analysis (1955)

48. Dean, Stark, Ind. Eng. Chem. 12, 486 (1920)

49. M. Potterat, H. Eschmann, Rev. Intern. Choc. 10, 1 (1955)

50. Intern. Assoc. Confectionery Manuf., Report of general assembly, Amsterdam (1955), p. 105 51. Schaffer, Hartmann, J. Biol. Chem. 45, 349

52. I. F. Reith, Intern. Choc. Rev. 9, 65 (1954) 53. Intern. Assoc. Confectionery Manuf., Report of general assembly, Amsterdam (1955), p. 107

54. The Analyst 68, 48 (1943)

55. Dyer, Taylor, Hamence, Analyst 66, 355 (1941)

56. AOAC, Methods of analysis (1955), p. 534

57. AOAC, Methods of analysis (1955), p. 535

58. AOAC, Methods of analysis (1955), p. 555

59. G. R. Janssen, Bull. Office Intern. Cacao Choc.,

Oct. (1937)

60. AOAC, Methods of analysis (1955), p. 146

61. P. A. Houseman, J. Assoc. Off. Agric. Chem. 6, 191 (1922)

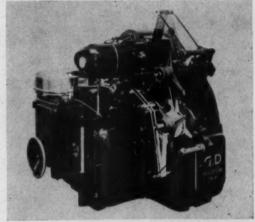
62. AOAC, Methods of analysis, Washington (1955), p. 780



### Visit Booth 410 NCA Convention



**GD Supermatic** 



MODEL 2500

## For high-speed twist wrapping of hard form square or rectangular shaped candies



Double end twist wrap 400-450 speed range per minute. From 320 to 380 Speed range on bunch fold.



SUPERMATIC PACKAGING CORP 1460 Chestnut St. Hillside, New Jersey



Why not put Greer ideas to work, producing a better way, for you? For further information on how our engineers' suggestions can give you new efficiency, improved quality control, and above all, bigger profits . . .

### Call or write J. W. GREER COMPANY

Sales Engineering Offices, Chicago, III., New York, N. Y. and San Francisco, Calif. European Representatives: Bramigk & Co., Ltd., 15 Creechurch Lane, London E. C. 3, England

BRINGING BETTER FOOD TO MORE PEOPLE AT

hai im

cor

act giv ma

of the tha

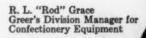
# ...for MOIRS LTD. of Halifax

Greer Melter Conditioners modernize chocolate preparation and handling in Canada's largest fancy package candy operation.

"Three Greer Conditioners and a triple pipe line supply system have completely eliminated batch methods of chocolate handling for Moirs," says Rod Grace. "This change is an important part of the modernization program that has so greatly improved their operations in recent years.

"The new system provides a number of advantages — constant and absolute quality control, improved sanitation, lower labor costs, and reduced congestion. Push-button activation of the system, with but a few minutes start-up time, gives spectacular new flexibility, and lets them make switch-overs with virtually no down time.

"These conditioners have handled millions of pounds of chocolate for Moirs, with efficiency and certainty the old methods couldn't approach — more proof that Greer ideas produce a better way."

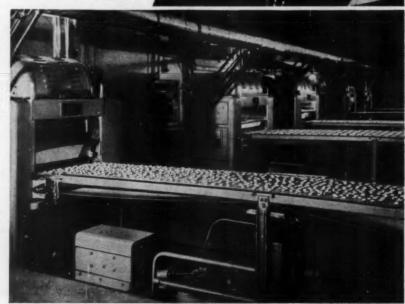


The battery of Greer Coaters applies well over 10,000 pounds of chocolate per day...piped in from the 3 Greer Melter Conditioners.

Visit us at Booths 404 and 405 at the Annual Confectionery Industries Exposition.



LOWER COST



for June 1959 - 53

ner



- Sanitary Frame
- Adjustable Shuttle
- Breathing Table

### Triumph

### **Kandy Kraft Depositor**

And still continuing are full mobility, all the Triumph Sanitary features, and ease of cleaning for your convenience. If you didn't make the show, write us.

The



### don't forget the Triumph Candy Maid

The same Triumph quality for use in medium sized plants. Deposits on trays.

### **MANUFACTURING COMPANY**

3400 Spring Grove Ave. — Cincinnati 25, Ohio

See our exhibit Booth No. 209 N.C.A. Exposition

# HYPOWR...

developed especially for all kinds of marshmallow; cut, grain, cast, extruded.



We'll be at the NCA Convention—Booth No. 7 to help you with your marshmallow problems. Stop by.

J. O. WHITTEN COMPANY, INC.

Winchester, Mass.

Gelatin Manufacturers Since 1903.

GELATIN

fo

### **National Confectioners Association**

# Convention Program

### June 7 to 11, 1959—Conrad Hilton Hotel, Chicago

### Sunday - June 7

5:30 p.m. Sunday Evening Get-Together "An Evening in Paris"

Dinner, Dancing, Can-Can Girls, Strolling Musicians

Awarding of a Round-Trip Flight to Paris for Two

(Admission by ticket only)

Sam Shankman

Executive Vice President Leaf Brands, Inc., Chicago, Ill.

Chairman, Sunday Evening Get-Together Committee

### Monday - June 8

8:00 a.m. NCA Golf Tournament

Olympia Fields Country Club,
Olympia Fields, Illinois
John G. Johnson
Vice-President
Walter H. Johnson Candy Co.,
Chicago, Ill.
Chairman, Golf Committee

8:30 a.m. Joint Technical Session of the National Confectioners Association and American Association of Candy Technologists Illinois Institute of Technology Metallurgical and Chemical Building 33rd and State Streets, Chicago, Ill.

Buses leave South Entrance, The Conrad Hilton at 8 and 8:30 a.m.

8:30 a.m. Technical Film

9:00 a.m. Official Opening
Opening and Welcome – Douglas S.
Steinberg, President, National Confectioners Association

9:05 a.m. The Food Technologist-Past, Present and Future Dr. John Litchfield

Assistant Professor, Illinois Institute of Technology

Department of Food Engineering, Chicago, Illinois

9:20 a.m. Recent Developments on Modified Fats R. O. Feuge

Oil Processing Unit, Oilseed Section, SURD,

U.S. Dept. of Agriculture, New Orleans, Louisiana 9:40 a.m. Factors Affecting Storage of Confections
Dr. J. G. Woodroof
Chairman Division of Food Processing

Chairman, Division of Food Processing Georgia Experiment Station, Experiment, Georgia

10:25 a.m. Microwave Processing

Douglas W. Quirk

Head, Advanced Products Section
Hot Point Division, General Electric
Corporation

Chicago, Illinois

10:45 a.m. Food Additives

Dr. Fredus N. Peters, Jr.

Vice President, Chemical Research

The Quakers Oats Company, Barrington, Illinois

11:05 a.m. Printing Inks and Food Packaging Ma-

terials

James D. Yates

Chairman of the Board

Martin Driscoll & Co., Chicago 5, Ill-

1:00 p.m. Luncheon

Student Lounge, Commons Building 3200 South Wabash Avenue

Presentation of Stroud Jordan Award

2:20 p.m. AACT Business Session

Tuesday — June 9 Waldorf Room

9:30 a.m. Official Welcome and Opening of the NCA 76th Annual Convention

William T. Reed, President

Reed Candy Company, Chicago, Illinois General Chairman, 1959 NCA Convention

9:40 a.m. Award of Promptness Prize-\$100 Bill Presiding:

Sam Shankman, Executive Vice President

Leaf Brands, Inc., Chicago, Illinois

9:45 a.m. Presentation of Proposed Policy State-

Fred W. Amend, Treasurer Fred W. Amend Company, Evanston, Illinois

9:50 a.m. Interubia

Carl von Ammon, Vice President

J. Walter Thompson Company, Chicago, Illinois

oner



The candy lover judges your confections by a combination of taste, texture and eye-appeal. The distributor and dealer by their shelf life. You don't have to be told that repeat sales depend on the *quality* of your product.

Today, however, the trick is to maintain the quality customers expect, without letting costs get out-of-hand. This is the reason more manufacturers are selecting OK BRAND Confectioner's Corn Syrup. It saves time because it's easy to handle, cooks rapidly without foam problems. Makes confections taste better because it maintains the proper moisture for long-lasting freshness. Prevents crystallization and is of the same dependable high quality lot after lot. Yet,

with all its advantages and popularity, OK BRAND Confectioner's Corn Syrup costs no more.

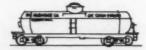
Hubinger's candy consultants, (the most active in the industry) are well known to you. They are always available to confer on all your production problems. Ask "The Man From Hubinger" or write, or phone for this service.

You may be glad to know you can obtain OK BRAND



Corn Syrups in dehydrated form (with the moisture already removed). This product, OK BRAND DRI-SWEET Corn Syrup solids may be the answer to problems with some formulas requiring minimum cooking.

You can depend on Hubinger for



fast shipment by rail . . .



... prompt delivery by truck...

### THE HUBINGER COMPANY

Keokuk, Iowa

NEW YORK . CHICAGO . LOS ANGELES . BOSTON . CHARLOTTE . PHILADELPHIA



10:20 a.m. How Buying Committees Operate
"Bill" Nigut, Marketing Consultant
The William C. Nigut Company, Chicago, Illinois

10:45 a.m. Packaging for Increased Sales Presiding:

Victor H. Gies
Chairman, Board of Directors, NCA
The Retailer Needs Better Packaging
George P. Kokalis, President
Sure Save Food Mart. Inc. Chicago.

Sure Save Food Mart, Inc., Chicago, Illinois

The Manufacturer is Providing Better Packaging Frank Gianninoto Frank Gianninoto & Associates, Inc. New York. New York

11:20 a.m. Candy Sales Growth Unlimited Franklin H. Graf, Executive Vice President

A. C. Nielsen Company, Chicago, Illinois

11:55 a.m. Award of Attendance Prize-\$100 Bill 12:30 p.m. Official Luncheon of the NCA 76th Annual Convention — Grand Ballroom

Presiding:
William T. Reed, President
Reed Candy Company, Chicago, Ill.
General Chairman, 1959 NCA Conven-

In Memoriam by Bob McCormack, Sr.,

President, Bobs Candies, Inc., Albany, Georgia
Greetings from the Mayor —
The Honorable Richard J. Daley
Introduction of Honored Guests:
Douglas S. Steinberg, President,
National Confectioners Association
Introduction of Speaker —

William H. Rentschler, Chairman of the Board, Stevens Candy Kitchens, Inc., Chicago, Illinois.

Honorable Barry Goldwater, United States Senator, Arizona

Wednesday – June 10
Waldorf Room

9:30 a.m. New Opportunities for Increased Profits Presiding:

W. C. Dickmeyer, President
Wayne Candies, Inc.
Fort Wayne, Indiana
Award of Promptness Prize—\$100 Bill

9:35 a.m. A Major Problem—Operating at a Profit

9:35 a.m. A Major Problem—Operating at a Profit
Donald S. Farquharson
Comptroller, Mars, Inc.
Chicago, Illinois
The NCA Financial Operation Survey

Provides Some Answers
Horace G. Barden
Partner, Ernst & Ernst

Partner, Ernst & Chicago, Illinois

### People leave their personal imprint on quality...



For 75 years now, we have operated on the premise: when it comes to quality, people mean more than machines. That's why our people, all trained in the art of chocolate making, take a personal pride in pleasing you.

Since 1884, it has been these people people who care—who have put the final touch to quality. Maybe that's why so many of you have come to count on us for truly fine chocolate products.

our diamond anniversary year



Wilbur Chocolate Co.

Lititz, Pennsylvania

oner







10:05 a.m. The Economics of Automatic Packaging Arthur L. Harris, President Mead-Atlanta Paper Company Atlanta, Georgia

10:45 a.m.

Presiding:

C. L. Smessaert, Executive Vice President, Walter H. Johnson Candy Company, Chicago, Illinois
NCA Secretary-Treasurer
Good Employee — Employer Relations

R. A. Westra, Manager Employee Relations, Health & Safety

Section, Hotpoint Company, Chicago, Illinois

11:20 a.m. The U. S. Food and Drug Laws Protect the Consumer

George P. Larrick, Commissioner
Department of Health, Education and
Welfare

Food and Drug Administration, Washington, D. C.

9

10

11

11

11

fo

11:50 a.m. The Exposition Is Packed with Profit
Opportunities

David P. O'Connor

Vice President in Charge of Public Relations

Penick & Ford, Ltd., Inc., New, York, New York

Chairman, 1959 NCA Exposition Committee

11:55 a.m. Award of Attendance Prize—\$100 Bill NCA Production Forum Waldorf Room

Presiding:

Otto H. Windt E. J. Brach & Sons

7:30 p.m. Sugar

E. H. Hungerford
Director of Research and Chemical
Control
The Great Western Sugar Company,

Denver, Colorado

7:40 p.m. Corn Syrup
Robert L. Lloyd
Manager, Sales Service Department
American Maize-Products, Company,
New York, N. Y.

7:50 p.m. Whipping Agent

Albumen

Herb Knechtel
Director, Knechtel Laboratories
Chicago, Illinois

Gelatin

William I. Gorfinkle, General Manager J. O. Whitten Company, Inc. Winchester, Massachusetts

Dr. J. Kenneth Gunther, President Gunther Products Company Galesburg, Illinois

Samuel K. Blumenthal, Vice President Blumenthal Bros. Chocolate Company Philadelphia, Pennsylvania Plant Problems 9:00 p.m. Safety to Protect You Raymond C. Ellis, Jr.

ing

esi-

m-

ons

etv

go,

ro-

and

sh-

ofit

olic

rk,

m-

Bill

cal

ny,

er

Staff Representative National Safety

9:15 p.m. Sanitation—Everyone's Responsibility
Louis A. King, Jr.

Director, Department of Bakery Sanitation

American Institute of Baking, Chicago, Illinois

9:30 p.m. Machinery Maintenance and Operation Don S. Greer, President I. W. Greer Company

9:45 p.m. Questions and Answers

Thursday – June 11 Waldorf Room

9:15 a.m. New Opportunities for a Greater Tomorrow

Presiding:

Reed W. Robinson Golden Nugget Sweets, Ltd.

Award of Promptness Prize-\$100 Bill

9:25 a.m. A New Approach to Individual Marketing
Whit Hobbs, Vice President

Batten, Barton, Durstine & Osborn, Inc.

9:55 a.m. How Public Relations Can Work For Your Industry
Bill Treadwell
Vice President & Manager, Public Relations Department

Leo Burnett Company, Inc., New York, New York

10:25 a.m.

Presiding:

Bob McCormack, Jr. Bobs Candies, Inc.

Creating New Ideas Dr. G. Herbert True

Director of Creativity of Visual Research, Inc.

Chicago, Illinois

11:05 a.m. A Dynamic Program For The Candy Industry Joseph Koldny, Managing Director

National Association of Tobacco Distributors

11:20 a.m. Presentation of NCA Activities

11:35 a.m. Action on Policy Statements Fred W. Amend

Chairman, Policy Committee

Award of Attendance Prize - \$100 Bill

11:45 a.m. Executive Session-NCA Active Members Only

Presiding:

Douglas S. Steinberg President, NCA

8:00 p.m. Annual NCA Dinner Dance
Award of Grand Prize
Max L. Gartner, President
Fascination Candy Co., Inc.
Chairman, NCA Dinner Dance Committee

## **Directory of Exhibitors**

National Confectioners Association

**Exhibition** 

June 8 to 11, 1959

Conrad Hilton Hotel-Chicago

Alabama Peanut Producers Association, National Promotion Headquarters: Farley Manning Associates, 342 Madison Avenue, New York 17, New York. Booth 604. Displaying: Alabama Runner peanuts and confectionery brands using these peanuts. In Attendance: J. D. Sanderson.

Amaco, Inc., 2601 West Peterson Avenue, Chicago 45, Illinois. Booth 508A. Displaying: photographic display of Aasted chocolate moulding plants, also moulds. In Attendance: Gerard Ziffer, S. S. Barber.

American Chocolate Mould Co., Inc., 173 Lafayette Street, New York, New York. Booth 510.

American Maize-Products Company, 250 Park Avenue, New York 17, New York. Booth 402. Displaying: Corn syrup, corn syrup solids and corn starches. In Attendance: James B. Melick, Charles H. Sanford, Jr., Robert L. Lloyd, Charles C. Davis, Fred J. Wobbekind, H. J. Hammer, W. Mamecke, E. R. Sterbenc, J. L. Mull, J. B. Brouwer, W. J. McKee, R. H. Jacobsen, E. V. Haynes, J. C. Crumley, D. O'Rale, E. Makstell.

American Partition Company, 3043 North 30th Street, Milwaukee 10, Wisconsin. Booth 39. Displaying: chipboard partitions. In Attendance: H. Lloyd Davis, E. C. Schaefer, J. McCormack.

American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pennsylvania. Booth 28. Displaying: various candy types wrapped with cellophane. In Attendance: R. H. Giljohann, H. S. Hart, W. H. Robie, L. M. Young.

Anheuser-Busch, Inc., 721 Pestalozzi Street, St. Louis 18, Missouri. Booth 306. Displaying: syrups and starches from corn. In Attendance: A. E. Eber, R. F. Amacher, Harry A. Best, Frank V. Voyda, W. J. Simms, Arthur F. Moeslein, Anton H. Luetkemeyer, Robert T. Regan, Ray L. Haffey, Eugene S. Yanchus.

Atlantic Gelatin, Division General Foods Corp., Hill Street, Woburn, Mass. Booth 41. Displaying: gelatin and pectin. In Attendance: C. H. Watson, J. A. Dunn, A. Tole, W. Kent, H. Ringland, N. Vance, Jr., W. Toohey, E. McDonald. Atlas Powder Company, Wilmington 99, Delaware. Booth 308. Displaying: sorbitol for improving the keeping quality of candy. In Attendance: G. S. Cripps, J. T. Zolper, C. E. McLaughlin, W. H. Knightly.

Franklin Baker, General Foods Corp., 15th & Bloomfield Sts., Hoboker, N. J. Booth 305. Displaying: coconut. In Attendance: R. A. Stringer, Graham T. Brown, R. C. Loeffler.

Paul F. Beich Company, Bloomington, Illinois. Booth 104. Displaying: Whizolator, continuous aerating machine for marshmallow, frappes, mazettas and nougats. In Attendance: William Beich, Paul Beich, Charles Olson, Justin Alikonis, Harold Hillman.

Blommer Machinery Company, 600 West Kinzie Street, Chicago 10, Ill. Booth 1. Displaying: Blommer chocolate mixers, Blommer tempering tubes. In Attendance: Henry Blommer, A. J. Blommer, Bernard J. Blommer, R. W. Dierker, Eugene J. Walenton.

Blumenthal Bros. Chocolate Co., Margaret & James Streets, Philadelphia 37, Pennsylvania. Booth 21. Displaying: chocolate and cocoa products. In Attendance: Bernhard S. Blumenthal, Samuel K. Blumenthal, Lawrence Blumenthal, Hobart J. Thurber, Clyde W. Sternberger.

Brazil Nut Advertising Fund, 100 Hudson Street, New York 13, New York. Booth 202. Displaying: Brazil nuts. In Attendance: T. R. Schoonmaker, Mrs. T. R. Schoonmaker.

Jabez Burns & Sons, Incorporated, 11th Avenue & 43rd Street, New York 36, New York. Booth 27. Displaying: sifter and a net weigher as well as a pictorial display. In Attendance: George Lingner, Barclay Spence, Bert Hawkins.

Burrell Belting Company, 7501 North St. Louis Avenue, Skokie, Illinois. Booth 40. Displaying: Reflecto, Mira Gloss and Gloss Flex glazed tunnel belts and plaques; Burtek Neoprene and Buna N belting; endless belts, plain and treated. In Attendance: James Linn, Howard Gage, Andy Pusateri, Jere Potter, Jeff Davis, Dick Nelson, Bob Thomas, Charles Becker, Joe Powers.

Cacao Barry, Inc., 366 Madison Avenue, New York 17, N. Y. Booth 106. Displaying: natural and Dutch process cocoas. In Attendance: Paul P. Ashley, Bernard Salfas.

California Almond Growers Exchange, P. O. Box 1768, Sacramento, California. Booth 409. Displaying: almonds of various types for manufacturing purposes. In Attendance: Dale Morrison, William H. Condley.

Candy Industry & Confectioners Journal, 18 East 49th Street, New York 17, New York. Booth 512.

Carle & Montanari, Inc., 95 Temple Avenue, Hackensack, New Jersey. Booth 206. Displaying: automatic hard candy wrapping machine "CM-H 56". Cocoa liquor ring mill "type 1313". In Attendance: Graham Warlow, Gordon Krupenny, Vinicio Galigani, Caesar Mascherin.

Fred S. Carver, Inc., One Chatham Road, Summit, New Jersey. Booth 42. Displaying: cocoa presses. In Attendance: William S. Carver, Charles D. Meylan.

Chocolate Spraying Co., Inc., 2035-39 W. Grand Avenue, Chicago 12, Illinois. Booth 406. Displaying: die pop machine, revolving pan, chocolate decorator. In Attendance: Leo Latini, Edmond Latini, John Latini, Gilbert Holmberg, John Sheffman.

Flavor

in toda In c

manag

quality savings Flo-Sw stream housek

duction

tle tim

deman large F

RE

FRO



Louis : Reunnel na N tendateri. omas,

New tural ul P.

. Box playuring lliam

East 512. enue, ving:

M-H tendnicio Sum-

ocoa arles rand

playolate nond heff-

NE

to

ing

MC.

oner



## Flo-Sweet quality sells more sweets!

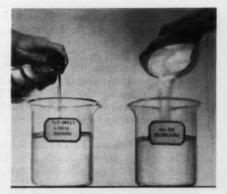
Flavor . . . body . . . texture—these are just some of the things that spell quality in today's confectionery.

In candy kitchens, quality-conscious managers use Flo-Sweet for precise quality control, coupled with important savings in costs. They have found the Flo-Sweet liquid sugar system ideal for streamlining production and simplifying housekeeping. They have increased production with new techniques that cut kettle time by as much as one-third, especially important during peak seasonal demands. They have selected, from the large Flo-Sweet family of fine sweeteners,

those best suited to their own specific needs. They have realized important savings-a typical candy plant using 100,000 bags of sugar a year can save \$64,475 annually with Flo-Sweet.

You can easily verify Flo-Sweet's higher quality yourself, through the simple test shown at the right. Just dissolve some of your favorite granulated . . . concentrate it to 67° Brix . . . and compare its color with that of Flo-Sweet liquid sucrose.

Your Flo-Sweet engineer will be glad to help you explore ways to use Flo-Sweet liquid sugars in cutting costs while boosting quality. Why not consult him soon?



## REFINED SYRUPS & SUGARS, INC.

YONKERS, NEW YORK

SERVING INDUSTRIAL SUGAR USERS EXCLUSIVELY FROM YONKERS, ALLENTOWN, DETROIT, TOLEDO



Clinton Corn Processing Company, Clinton, Iowa. Booth 504. Displaying: conference space only. In Attendance: H. A. Bendixen, A. C. Junge, E. D. Cottral, E. C. Alderson, R. H. Jackson, W. F. Jackson, R. C. Rau, R. E. Mikkelsen, G. F. Heath, T. R. Miller, W. P. Hoaster.

The Confectioner, 728 North Jefferson, Milwaukee, Wisconsin. Booth A.

Confectionery-Ice Cream World, 99 Hudson Street, New York 13, New York. Booth 12.

Confection Machine Sales Company, 407 South Dearborn St., Chicago 5, Illinois. Booth 25. Displaying: instant and continuous fondant machine and a sanitary syrup pump. In Attendance: C. Bonheimer, Paul Bonheimer, E. Zeisler, H. Eisenmenger.

Corn Products Sales Company, 17 Battery Place, New York 4, New York. Booth 303. Displaying: Cerelose brand dextrose, Rex and Globe brand corn syrup, Buffalo starch. In Attendance: A. N. Mc-Farlane, M. D. Mullin, J. M. Krno, C. R. Waters, J. P. Driscoll, H. V. P. Francis, H. J. Heinstadt, G. W. Matthews, Jr., S. W. Roberts, J. M. Coe, T. C. Clawson, W. S. Winter, A. P. Jaeger, George Olsen, J. Kalynas, W. F. Fiedler, J. E. Walz.

Cushion Pack, Incorporated, 150 Fifth Avenue, Hawthorne, New Jersey. Booth 502.

Diamond Gardner Corp., Hanafee Products, Inc., sole agents, P. O. Box 893, Old Greenwich, Conn. Booth 17. Displaying: paper candy sticks. In Attendance: J. M. Hanafee, John T. Hanafee, R. P. Hanafee, L. B. Hanafee.

Diamond Walnut Growers, Inc., 1050 Diamond Street, Stockton, California. Booth 108. Displaying: shelled California walnuts, Diamond and Emerald brands. In Attendance: Richard J. Tutt, George W. Dapson, James D. Wheat, John T. O'Leary.

E. I. du Pont de Nemours & Co., Film Department, Wilmington 98, Delaware. Booth 403. Displaying: polymer-coated cellophane for candy packaging, including the new 600-K. In Attendance: representatives of the sales organization and the technical service section.

Durkee Famous Foods, 2333 Logan Boulevard, Chicago 47, Illinois. Booth 304. Displaying: confectioners' fats and oils, desiccated, sweetened and toasted coconut, creamed coconut. In Attendance: G. F. Atkinson, C. W. Lantz, W. M. Cochran, J. Carter, J. D. Toll, E. G. Kaupert, S. F. Eaton, P. Welker, W. A. Wymer, F. D. Machon, H. S. Villars.

J. W. Greer Company, Eames Street, Wilmington, Mass. Booths 404-405. Displaying: Multi-Zone cooler, nut-enrobing line, chocolate conditioner. In Attendance: Rod Grace, Fred Greer, Don Greer, James Gardner, Jack Postl, Jack Gallagher. Gunther Products, Inc., 701 West Sixth Street, Galesburg, Illinois. Booth 24. Displaying: G-400H whipping protein, G-400V whipping protein. In Attendance: J. K. Gunther, Robert C. Gunther, Ray Turner, Sam Kostelney.

Otto Haensel Machine Company, 60 East 42nd Street, New York 17, New York. Booth 301. Displaying: one automatic plastic hard candy line. One high speed candy wrapping machine. One universal foiling machine. In Attendance: Otto Haensel, Jr., R. W. Havenstein, W. E. Crothers, Hans Kruse, C. F. Moulton.

James C. Hale & Company, 282 7th Street, San Francisco, California. Booth 712. Displaying: semi-automatic heart box wrapping machine. In Attendance: J. C. Hale, R. V. Snyder.

Hansella Machinery Corporation, Grand & Ruby Avenues, Palisades Park, New Jersey. Booths 19-20. Displaying: complete line of Hansella equipment including new "Zip-Wrap" type 30, high speed candy wrapping machine. In Attendance: Kurt Beyertz, J. L. Raffetto, C. G. Cockinos, Jack Green, R. H. Fortune, C. H. Becker, G. Schmidt, W. Kamp.

F. Ward Harman Associates, Division of Marine Model Company, Inc., Halesite, Long Island, New York. Booth 508B. Displaying: scale model components for pre-planning and study of processing layouts. In Attendance: F. Ward Harman, William W. Harman.

Hilliard's Kitch-in-vue Candy, Inc., 825 Main Street, South Weymouth, Massachusetts. Booth 702. Displaying: demonstration of dipping with the Hilliard Dipping System. In Attendance: Alan D. Hilliard.

Hooton Chocolate Company, 355 North 5th Street, Newark 7, N. J. Booth 6. Displaying: chocolate coatings, chocolate liquors and cocoa powders. In Attendance: George B. Dodd, Eugene J. Teal, Lloyd S. Fiscus, Silvio Crespo, Frank J. Wolf, Jr., Roger C. Hubbard, W. R. Schoener, Robert Hayward.

The Hubinger Company, 601 Main Street, Keokuk, Iowa. Booth 3. Displaying: OK corn syrup, OK thin boiling starch, OK molding starch, OK dri-sweet corn syrup solids. In Attendance: R. L. Krueger, A. M. Robinson, L. C. Watson, G. R. Underwood, H. L. Bentz, D. L. Tiger, H. L. Peper, H. S. Brightman, C. H. Lawrence, J. T. Wallenbrock, J. T. Flahiff, Curt Aagre, Max D. Zauke, John M. Search.

J. A. Joffe & Company, 206 South 13th Avenue, Mount Vernon, New York. Booth 513. Displaying: sugar decorations, candy ornaments. In Attendance: Julian A. Joffe, R. D. Joffe.

A. Klein & Company, Inc., 113-119 West 17th Street, New York 11, New York. Booth 23. Displaying: fancy candy boxes, exclusively. In Attendance: Joseph Ehrenfeld, Adeline Ehrenfeld, William Michaelis.

Knechtel Laboratories, 1051 West Berwyn Avenue, Chicago 40, Illinois. Booth 44. Displaying: imitation display candies. In Attendance: Gladys Knechtel, B. Faller, H. Faller.

H. Kohnstamm & Company, Inc., 11 East Illinois Street, Chicago, Illinois. Booth 307. Displaying: FD&C colors; powdered, crystal and certified lakes, flavoring extracts, fortified and hard goods flavors. In Attendance: R. H. Pulver, Wm. H. Nelson, A. Vogel, A. Torter, Joseph Torter, Marty Moss, Franklin Hlavin, Justin Pulver, L. F. Coplan, Thomas O'Brien, Neil Thompson.

Lamborn & Company, Inc., 222 West Adams Street, Chicago 6, Illinois. Booth 4. Displaying: sugar. In Attendance: Hoyt C. Bonner, Louis Jacques, Edward Heidelbach, Lambert Maguire, Ollie Kline, Robert Hodgdon, Walter Wheatley.

J. M. Lehmann Company, Inc., 550 New York Avenue, Lyndhurst, New Jersey. Booth 9. Displaying: Literature and displays of chocolate and confectionery machinery. In Attendance: C. W. Muller, C. Dittmann, W. Grale, J. Crifasi, H. Mierswa.

The Manufacturing Confectioner Publishing Company, 418 North Austin Boulevard, Oak Park, Illinois. Booth 38. Displaying: The Manufacturing Confectioner, Candy Buyers' Directory, Purchasing Executives' Directory, books on confectionery manufacturing. In Attendance: Mrs. P. W. Allured, Stanley Allured, Allen Allured.

Marathon, Division of American Can Company, Menasha, Wisconsin. Booth 207. Displaying: Hi-Fi and Glamakote cartons, special overwraps and heat-seal pouches. In Attendance: Norm Greenwood, Roy Zimmerman, Don Anderson, Ken Houts and Bob Clark. Mead Packaging, Incorporated, 950 W. Marietta Avenue, N.W., Atlanta 2, Georgia. Booth 310. Displaying: Cluster-Wrap (automatic multiple packaging system), Solo-Wrap (new leak-proof, sift-proof package that requires no inner liner). In Attendance: Arthur L. Harris, Henry H. Ogden, Edward R. Shelly, Albert C. Bruno, Kenneth T. Champness.

Merrill Lynch, Pierce, Fenner & Smith, Inc., 70 Pine Street, New York 5, New York. Booth 10. Displaying: news and quotation ticker, market board, complete commodity information. In Attendance: Malcolm J. Forbes, Robert L. Stevenson, Irwin Shishko, Robert W. Weihe.

Mikrovaerk A/S, Sydmarken 32, Copenhagen, Soborg, Denmark. Booth 22. Displaying: fully automatic Jensen chocolate moulding installations (illustrative material), Ericksen roller depositing plant (roller section), tempering machine, chocolate pump and moulds. In Attendance: Karl Magnussen, Harald Jonsson, Ove F. Prasz.

Milprint, Inc., 4200 North Holton Street, Milwaukee 1, Wisconsin. Booth 302. Displaying: full line of packaging materials for the candy industry. In Attendance: James K. Heller, James Perkins, L. R. Zimmerman, Robert Long, William Heller, Sr., Cliff Williams, Abe Jacobs, Dave Callahan, Dave Dooley, Jack Sevick, Elmer Angsman, Jerry Rose.

Molded Fiber Glass Tray Company, Linesville, Pennsylvania. Booth 28. Displaying: fiber glass handling, drying and storage trays. In Attendance: Jack Moore, Carl Hornkohl.

Murnane Paper Company, 1510 North Kostner Avenue, Chicago 51, Ill. Booth 29. Displaying: plain and treated board for bar boats in rolls and layers. Greaseproof and anti-stick applications to paperboard. Assembled partitions, dividers, layerboards,



reet, 00H In ther,

2nd

Disline. One Otto ners,

San emiend-

9-20.

nent peed Kurt reen, amp. arine New

com-

sing

Main 702. the n D.

5th chocders. Γeal, , Jr., Hay-

Keoyrup, OK R. L. E. R. eper, dllennuke,

enue, ying: ance:

17th Distend-Wil-

ioner

Die cut boards. Complete range of food approved board. Precision slitting. In Attendance: Frank J. Murnane, J. Hobie Murnane, George D. Kells, Frank H. Keegan, Denis Johnson, Walter B. Flintrup, Robert Walsh, John McKitrick, Charles Fick.

National Equipment Corporation, 153 Crosby Street, New York, New York. Booths 30-34. Displaying: National CM-2000 mogul unit, sugar sander, clean line enrober, National 3000 lb. cooker, National staggered pump bar, Rose form cut & fold wrap caramel machine, Rose 5 IST irregular shape twist wrap machine, Rose FWT Triumph form cut and twist wrap machine. In Attendance: W. H. Kopp, Herman Greenberg, Charles Greenberg, Richard Greenberg, Charles Balin, Jack Debrovner, Allen Carter, M. M. Guggenheim, G. S. Perkins.

The Nestle Company, Inc., 100 Bloomingdale Road, White Plains, N. Y. Booth 26. Displaying: regular line of quality milk and vanilla coatings in addition to Icecap coating and 2-1/2 lb. milk chocolate piece called "Alps Breakup". In Attendance: T. F. Corrigan, R. H. Wilson, J. E. Clarke, J. E. Conley, E. E. Ebel, J. J. Flynn, S. Katzman, J. K. McGrath, A. L. Shirley, H. S. Watts, A. T. Newth, J. R. Meagher, H. J. Wolflisberg, J. J. Scheu, Mrs. H. J. Britt.

Nulomoline Division, American Molasses Company, 120 Wall Street, New York 5, New York. Booth 203. Displaying: Nulomoline, Convertit, Grandma's and other grades of molasses. Liquid sugars from Inland Sugar Company, Chicago. In Attendance: Charles B. Broeg, James A. King, Fred Janssen, F. Trager, R. Sassman, Jr., A. Gibbon, A. Taylor, E. Syverson, R. Timmer, W. Wolf, J. Anderson.

Penick & Ford, Ltd., Inc., 750 Third Avenue, New York 17, New York. Booth 2. Displaying: corn syrups, corn starch. In Attendance: D. P. O'Connor, O. H. Tousey, L. S. Poer, P. G. Wear, W. S. Russell, J. A. Kooreman, F. J. McCrosson, S. F. M. Maclaren, W. J. Brown, D. C. Cahoon.

Quincy Paper Box Company, 230 North Third St., Quincy, Illinois. Booth 8. Displaying: complete line of Valentine and holiday candy boxes. In Attendance: Paul Jochem, M. A. Jochem.

Racine Confectioners' Machinery, 18 Park Row, New York 28, New York. Booth 210. Displaying: Racine paper cup racking machine, Racine junior depositor and Racine extruder. In Attendance: George Scheu, William Genich, Leonard Shapero, Claude J. Covert, George Hislop.

Reflectotherm, Inc., 26 East University Avenue, Cincinnati 19, Ohio. Booth 107. Displaying: standard eight foot section of radiant cooling tunnel with attached dew-point control unit. In Attendance: C. A. Mills.

F. Ritter & Company, 4001 Goodwin Avenue,

Los Angeles 39, California. Booth 14. Displaying: flavors, aromatics, essential oils and colors which can be used to reproduce various flavors from other countries. Also candies from international markets. In Attendance: Allan E. Katz, Leonard S. Brooks, Dr. K. H. Lorenz, William J. Seidensticker.

Round Tubes and Cores Company, 806 N. Peoria, Chicago, Ill. Booth 15.

Savage Bros. Company, 2638 Gladys Avenue, Chicago 12, Illinois. Booth 25. Displaying: model S-48 Fire Mixer, 18" diameter copper revolving pan. Savage continuous candy cutter. Stainless steel marshmallow beater. Stainless steel chocolate melter. Herald forced draft furnace. In Attendance: R. J. Savage, Jr., M. J. Linden, W. P. Halpin, R. W. Emerson.

F. J. Schleicher Paper Box Company, 1811 Chouteau Avenue, St. Louis 3, Missouri. Booth 509. Displaying: fancy candy boxes. In Attendance: R. A. Smiley, W. J. Engel, L. S. Schleicher, D. L. Harter.

Setter Bros., Inc., Cattaraugus, New York. Booth 11. Displaying: paper candy sticks. In Attendance: C. E. Butler.

W. C. Smith & Sons, Inc., 2539 North 9th Street, Philadelphia 33, Pennsylvania. Booth 503. Displaying: pony chocolate coater, chocolate melting and tempering kettle, power cream center former and pony caramel cutter. In Attendance: W. C. Smith, Jr., S. Charles Jacques, Les Drusendahl, Ted Merckens.

D

H

in

In

li,

for

A. E. Staley Manufacturing Company, Decatur, Illinois. Booth 407. Displaying: Sweetose syrup, confectionery starches, lecithin. In Attendance: N. K. Hammer, R. D. Dombroski, W. Ray, L. G. Tvempol, L. Rapp, W. Molash, J. Bolas, G. A. T. Moore.

Standard Brands, Incorporated, 625 Madison Avenue, New York 22, New York. Booth 35. Displaying: all grades of Fleischmann's fancy pecans. In Attendance: Harry Holder, Boyce Thompson, N. W. Jenkins, George Whiting, Lloyd Negaard, L. M. Franzen, R. B. Fagaly.

Sugar Information, Inc., 52 Wall Street, New York, New York. Booth 408. Displaying: literature. In Attendance: Neil Kelly, John L. Hickson, Robert D. Goodwin.

Supermatic Packaging Corporation, 1450 Chestnut Avenue, Hillside, New Jersey. Booth 410. Displaying: G. D. Model 5000, G. D. Model 2500. In Attendance: Benedict R. Marfuggi, Oreste G. Marfuggi, John Lambertini, Orazio Callegati.

Swift & Company, 1215 Harrison Avenue, Kearny, New Jersey. Booth 201. Displaying: gelatin. In Attendance: C. W. Jensen, P. J. Tiemstra, K. G. Loughran, W. E. Isley, F. L. Levingston, D. P. Grettie, P. G. Harrill, D. D. Roberds.

Triner Scale & Manufacturing Company, 2714 West 21st Street, Chicago 8, Illinois. Booth 501C. Displaying: candy and nut scales, postal scales. In Attendance: Ted Jansey, Mark Chitjian, Bill Hudson.

ving:

hich

oth-

mar-

d S.

cker.

eoria,

enue.

nodel

lving

inless

olate

tend-

alpin,

Chou-

Dis-

R. A.

arter.

Booth

tend-

treet.

splay-

g and

mith.

Merc-

catur,

yrup,

e: N.

[vem-

foore.

dison

. Dis-

ecans.

pson,

gaard,

New

ature. Rob-

Chest-Dis-2500.

ste G.

earny,

in. In K. G.

D. P.

ctioner

i.

The Triumph Manufacturing Company, 3400 Spring Grove Avenue, Cincinnati 25, Ohio. Booth 209. Displaying: Triumph 18" Candy Maid cream depositor for plaques or trays with new adjustable shuttle for exact cut off. 16" Kandy Kraft cream depositor, continuous belt conveyor or type with new adjust shuttle and new elevator table. In Attendance: Del Williams, Paul E. Heckel.

C. E. Twombly Company, Division of Sherman Paper Products Corp., 156 Oak Street, Newton Upper Falls 64, Mass. Booth 511. Displaying: candy cups and other candy packaging material. In Attendance: Bill Smith, Charles McElroy, Carl Lurch, Merril Box, John Prawdzik, Arthur Lytle.

Union Confectionery Machinery Company, Inc., 318 Lafayette St., New York 12, New York. Booth 36.

Union Sales Corporation, 301 Washington Street, Columbus, Indiana. Booth 204. Displaying: products from corn. In Attendance: E. B. Pulse, H. E. O'Shaughnessey, J. A. McLean, P. L. Gourno, D. Foster, C. F. Grathen.

Voss Belting & Specialty Company, 5645 North Ravenswood Avenue, Chicago, Illinois. Booth 105. Displaying: tunnel belts: Mylar Kleer gloss, #11 Hi-Lustre glazed, #3 Hi-Gloss, Black Satyn-gloss, complete Vosstex line for conveying and transmission. In Attendance: Robert J. Voss, Henry Voss, Warren Frandsen, A. T. Stevens, Duke Powell, Wm. H. Jenks, Ted Merckens, Edward T. Kordt, G. Knutson, Lou Anich, Mark Wixon.

T. C. Weygandt Company, 165 Duane Street, New York 13, New York. Booths 102-103. Displaying: Hema batch roller, Steinberg spray system. In Attendance: Max Kaderli, Mrs. Edith B. Kaderli, Ronald M. Kaderli.

Blowner CHOCOLATE CO.
FACTORIES: LOS ANGELES CHICAGO. SAN FRANCISCO

I. J. White Corporation, Ben Moore Division, 136-16 32nd Avenue, Flushing 54, New York. Booth 37. Displaying: chocolate tempering and melting mixers. In Attendance: Harold J. White.

White Stokes Company, 3615 South Jasper Place, Chicago 9, Illinois. Booth 5. Displaying: Superkreme, milk combination product used in caramels, fudges, etc. Whistojel, used for jellied candies. Fondax, nougat creme used in cream centers. In Attendance: E. J. Stevenson, C. A. Dillon, A. N. Tzakis, J. E. Sellers, D. M. Moseley, W. W. Kearney, E. Teske, J. R. Giannotti.

J. O. Whitten Company, Inc., Winchester, Mass. Booth 7. Displaying: confections made with gelatin, including extruded marshmallows. In Attendance William I. Gorfinkle, Harry O. Baker, Edward Davis.

The Woodman Company, Inc., 647 East College Avenue, Decatur, Georgia. Booth 401. Displaying: Plur-a-matic model "E" (automatic net weigher) and Air-Weigh-Pac Model "B" (bag former/filler/sealer). In Attendance: A. H. Forsyth, R. V. Young, R. H. Cass, E. E. Scarboro.

Note: The information in the above list was supplied by exhibitors and is complete as of our press time. Bold face listings indicate advertisers in this issue. See our advertisers' index, page 102, to locate these advertisements which will give information on the exhibits in greater detail.



## Use of standard costs at Sevigny's

BY WALTER W. MERRILL
Price Waterhouse & Co., Boston

This paper presents a case study of the use of standard costs by Sevigny's Candy, Inc., a small company, manufacturing ribbon candy. The company's business is highly seasonal with peak shipments occurring during the fall months prior to Christmas. Candy is produced throughout the year and stored in an air-conditioned warehouse. Increasing efforts to promote early shipments through storage allowances, anticipation discounts and consumer promotion have met with moderate success, but over 50% of shipments are still made during the fall. The company produces a high quality product in its field, and sales have increased substantially each year.

The company finances its inventory and receivables through short-term bank loans. These are paid off in full at the end of each year. At about the time the company's operations reached such a size that substantial seasonal bank loans were required, it became obvious that a conventional profit and loss statement was of little use at interim periods during the year. As the president

expressed his problem, "Come July or August, we made few shipments, the warehouse is full of candy, we're heavily indebted to the banks, a full six months' selling and administrative expenses have been incurred, and . . . . . well, how are we doing?"

The solution to this problem was to establish standard manufacturing costs, including budgets not only for manufacturing overhead, but for selling and administrative, and delivery expenses as well. Using these costs and budgets along with a sales forecast it was possible to compute unit costs and profit and to set up a cash forecast by months for the year. Variances from standards and budgets were calculated monthly (or oftener) as a part of the regular accounting routine. As long as these variances were favorable and sales forecasts were being met, the company was operating satisfactorily and could expect to equal or exceed budgeted profit. Unfavorable variances were signs that operations were unsatisfactory and that profits were in danger.



During the year, standard selling and administrative expenses as well as delivery expenses were applied to production in the same manner as manufacturing overhead. The inventory of finished goods was therefore valued during the year at standard cost, including these nonmanufacturing expenses. This method of valuing the inventory, suggested by management, was obviously at variance with generally accepted accounting principles. It was, however, by far the most practical under the circumstances. At the year end, when the inventory was practically nonexistent, an adjustment to a generally accepted method of inventory valuation was made for purposes of the annual statement.

This paper will be devoted to a description of the simple process standard cost system which was installed. This system provided the usual benefits of a cost system—cost control, guidance in pricing, and inventory valuation. Management is considering using it as a basis for a supervisory profit-sharing plan.

## **Materials Accounting**

Under the cost system as established, all raw materials purchased and all expenses incurred are charged to a cost ledger controlled by a single account in the general ledger. Raw materials are charged to the cost ledger at standard prices. Differences between standard and actual are charged to a purchase price variance account.

The flow of materials through the process is shown in Exhibit I. Corn syrup, sugar and reworked scrap are measured into each batch cooked. The amounts used are recorded on daily production reports and summarized for the month by the accounting department. Colors, flavors, etc. are also measured, but rather than record and summarize these small amounts, the standard amount per batch is charged to work in process on the basis of the number of batches cooked during the month.

At the end of each month all raw materials are inventoried. The difference between beginning inventory plus purchases and ending inventory plus usage is the material usage variance. Production personnel must explain large variances.

### Work in Process-Material

Deliveries of cooked candy to the finished goods account are at a standard weight per case packed. Scrap is collected and weighed daily. Losses by evaporation are based on a standard based on past experience. At the end of the month the difference between the weight of ingredients put into process and the deliveries and losses becomes the quantity variance. A quantity variance can result from unreported scrap, packing in excess of standard weights, and other factors.

The standard material price of cooked candy is based on formula quantities of the required ingredients and standard amounts of scrap and evaporation. If actual proportions of the different ingredients differ from formula, a price variance results. Exhibit II shows the calculation of the standard price for cooked candy. Exhibit III shows a sample work-in-process account.

#### **Finished Goods**

Since only a single product is manufactured, there is no need for applying labor and overhead costs to the cooking process. All such costs, including in addition, selling and administrative and delivery costs, are applied direct to the finished goods account. As all cost elements are brought in at standard quantities and prices, variances can be caused only by the loss of full cases through errors in shipping, inventory taking or physical disappearance. A typical finished goods account is shown in Exhibit IV.

In Exhibit IV it will be noted that the column headed cost per case shows the build-up of the standard cost of \$4.334 per case. This column can



st, we ull of a full penses w are

ablish

r sellses as with a unit ast by and long forerating exceed signs profits

oLDS

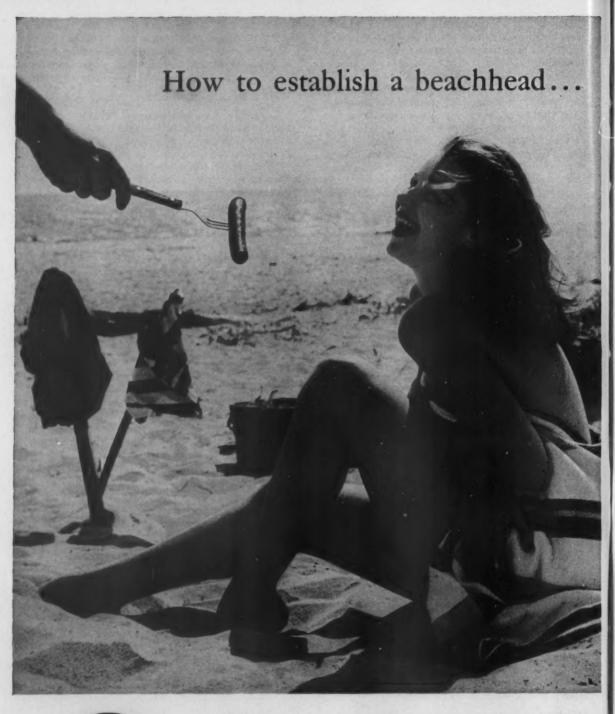
better d more

nd mar work-

IS, INC.

t. Y.

ctioner





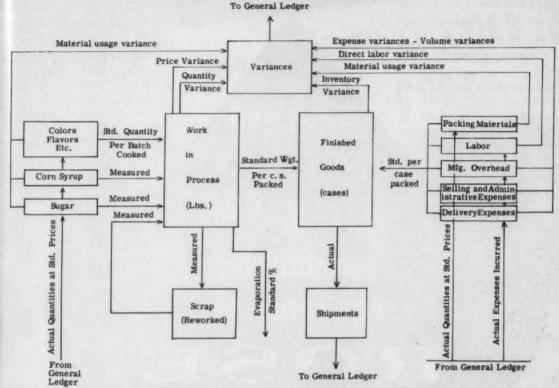
If your sales volume is slipping, don't throw in the towel... establish a beachhead with the man from Blumenthal. Life's a picnic when you rely on his fine quality chocolate products and the sincerity of his service. Drop everything and...

see your man from...

BLUMENTHAL BROS. CHOCOLATE CO.

68 - The Manufacturing Confectioner

## Exhibit I - Flow of materials and costs



be calculated from standard prices and quantities per case regardless of actual production.

## **Direct Labor**

In common with many process industries direct labor is a smaller element of cost than material. To a large extent direct labor is fixed in that, if a production line is operating at all, a full crew is needed. Labor variance for each production line is calculated daily. Greatest possibilities for reducing labor costs and obtaining a favorable labor variance lie in sustained high production and elimination of scrap. The company uses a bonus plan as an incentive to high production (and low scrap) and is continually making improvements to equipment and layout which serve to increase production per labor dollar. Procedures for reporting production and calculating variances by individual employees such as are used in machine shops and similar industries have not been found necessary nor practical, although some further analysis of labor variance may be undertaken in the future.

## Overhead, Selling and Administrative, Delivery

Budgets for these expenses are established at the beginning of each year. Standard costs per case are computed by dividing budgeted amounts by forecasted production. (Production and sales are assumed equal.) Each month actual expenses are recorded and compared with budgets. The difference between actual and budgeted expenses is charged (or credited) to expense variance accounts. The differences between budgeted expenses and the amounts absorbed by production at standard costs are charged to volume variance accounts. A typical overhead expense account is shown as Exhibit V.

## Variable Budgets

From an accounting viewpoint, the result of a variable, as compared to a fixed, budget is simply the shifting of variances from expense variance to volume variance or vice versa. This is shown in Exhibit VI. From the point of view of cost control, however, a variable budget offers a considerable advantage in that it tends to adjust the expense budget of a foreman to a more realistic level as production levels change. On the assumption that overhead expenses will vary at least partly with production, a variable budget tends to result in a reduction of both expense and volume variances. The company has now reached a point at which greater responsibility for the control of expenses is being delegated to operating personnel. This fact along with interest in a possible supervisory incentive program has resulted in a consideration of variable budgets for the coming year.

## **Monthly Closing Routines**

At the end of each month variances are listed and summarized in a report for management which also serves as the basis for a journal entry crediting the cost ledger and charging variance accounts on the general ledger. Total standard cost of shipments is also credited to the cost ledger. The manufacturing portion of this cost is charged to cost of sales at standard, and the portions representing selling and administrative and delivery ex-

ablish

when

ity of

ioner

## ROSE 5 I.S.T. TWIST WRAPPER

Output: 400 to 450 pieces per minute depending on shape of piece

The Rose 5 I. S. T. is designed for the twist wrapping of irregular shaped candies.

- Equipped with a patented automatic feed.
- Self-lubrication throughout, oil being sprayed by a pump and filter to the various movements.

## ROSE F. W. T. TRIUM P

Form, Cut, Fold or Twist Wrapping Machine
Output: 650 pieces per minute on tw
550 pieces per minute on to

The Rose Triumph is designed for high speed production of twist or wrapped pieces showing the cut of through the wrapper. The wrapper is be cellophane, wax paper, wax-bad foil, with or without understrip.

Designed for today's jet-speed production requirements...

## ROSE

Now is the time... in this keen competitive market... for you to install these advanced high speed wrapping machines so that you will be able to derive the benefits and profits from their high speed and lower cost per unit production.

The Rose family of high speed wrapping machines were specially designed to fulfill today's relentless demand for highest speed production together with lower labor costs, and to produce the modern "eye appealing" wrap necessary for supermarket type of merchandising.



Form, Cut and Twist Wrapping Machine Dutput:

550 pieces per minute

The Rose F. W. T. is designed for forming, cutting and twist wrapping rectangular or cylindrical shaped toffees and hard candies in cellophane or wax paper, with and without an understrip or, wax paper with an overstrip.

ROSE Type 4 B.R.F.
PLASTIC TOFFEE
AND HARD CANDY
BATCH ROLLER
AND FEEDER

VISIT OUR BOOTH NOS. 30-31-32-33-34

N. C. A. CONFECTIONERY EXPOSITION

JUNE 7th-11th
Conrad Hilton Hotel

EQUIPMENT CORPORATION

ROSE MACHINERY DIVISION

153-157 Crosby Street New York 12, New York 167 North May Street Chicago, Illinois



Machine the on two the on to the cut wrapper are, wax-bat rstrip.







E.F. E DY R







## TAKES THE PLACE OF BEST QUALITY CREAM and SUGAR

HYFAT is a Hydensity Sweetened Cream of golden color, high butter fat content, smooth texture and high total solids. Its fresh flevor and uniformity are controlled to give you certain results with every batch of fudges, caramels, chews, puddings and other confections you produce. Write for formulas.

#### DOES NOT REQUIRE COLD STORAGE

HYFAT is the ideal and safe cream insurance for all seasons. It is dependable in quality and ready to use when needed. Used for many years by discriminating confectioners to produce highest quality confections. Now available in any quantity. Let us quote your needs

## EASY TO USE

Simply release contents from tub, peel back parchment paper and cut off as much as you need. Place in kettle and note the rapid mixing of batch. Due to our exclusive Hydensity process, the sweetened cream flavor of HYFAT is carried right through to your finished confections. Customers recognize this superb fresh flavor instantly.

BASIC INDUSTRIES, INC.
919 N. MICHIGAN AVE., CHICAGO 11, ILL.





STERLING, ILLINOIS

penses are charged to these accounts in the general ledger.

After closing entries have been made as well as entries charging the cost ledger (from voucher register, payroll distribution, etc.), the inventory balances in all cost ledger accounts are listed and the total checked against the balance in the cost ledger account in the general ledger. Any small differences due to dropping decimals are charged to a variance account. Larger differences of course indicate an error and must be investigated.

## **Monthly Reports**

The system we have been describing is essentially a textbook standard cost system. Its significance lies in the fact that it has proved relatively easy to operate and has provided management with necessary information not readily attainable by other means.

Once management has made plans for a year's operations, the cost system provides a continuous measure of performance against these plans, and in the particular circumstances under which the company operates this is the only method of indicating whether or not operations are proceeding on a profitable basis. In addition to budget and variance information the system provides effective control over inventories and usage of materials the cost of which is an important element of total cost. Each month a list of inventories of important materials is provided with relatively little effort. Monthly cost conferences are held at which variances, inventories, orders, shipments, etc. are reviewed.

The Profit and Loss Statement prepared each month is shown in Exhibit VII. Variances, including expense variances, are charged to profit and loss monthly. Standard expenses, as already mentioned, are charged against inventory and only the standard amount per case shipped is charged to profit and loss.

A brief production and profit summary of considerable value to management is shown in Exhibit VIII. The company operates on the basis that everything produced will be sold. Orders are received throughout the year and unfilled orders have always been in excess of inventory. Assuming that all candy produced will be sold, the potential profit created through production is as interesting to management as profit actually realized through sales. At the end of the year, of course, profits on the two bases are equal.

#### **Cash Forecasting**

The standard cost system offers special advantages in facilitating the establishment of cash forecasts. It is company practice at the beginning of each year to prepare a forecast of cash balances and requirements by months for the ensuing year. A complete description of the construction of such a forecast is beyond the scope of the present paper. Suffice it to say that the balance sheet method is used in which all items of the balance sheet are projected by months for the year with the exception of cash which becomes the balancing figure.

fo

gen-

ucher ntory and cost small arged

ourse

essenignifitively ement nable

year's nuous , and h the indieding and ective erials

ortant effort. varie reeach

total

cludand menonly arged con-

Exbasis rs are orders iming ential

esting rough

profits dvanforeng of ances year.

such paper. ethod sheet h the

tioner

neing

The principal variables in this forecast are inventory and accounts receivable. Forecasts of production and shipments by months are basic, and the management has done an effective job of such forecasting. The fact that standard costs have been developed for all items of expense immensely facilitates the converting of inventory forecasts from units to dollars and the taking up of profits as shipments are projected.

These cash forecasts have been of significant value to the company in its dealings with banks in connection with seasonal financing requirements.

#### Conclusion

Many small companies have tended to shy away from standard cost systems because of a feeling that such systems are too complex or diffi-

All figures are hypothetical in all exhibits.

EXHIBIT II						
STANDARD	MATERIAL	COST	OF	COOKED	CANDY	

Quantity	Price	Amount
50	\$.08	\$4.00
50	.06	3.00
10	.07	.70
1	.30	.30
1	.15	.15
112	\$.0728	\$8.15
22	\$	\$
10	.07	.70
80	\$.0931	\$7.45
	50 50 10 1 1 1 112 22 10	50 \$.08 50 .06 10 .07 1 .30 1 .15 112 \$.0728 22 \$ 10 .07

#### EXHIBIT III WORK IN PROCESS ACCOUNT FOR MONTH

		Quantity	Price	Amount
Sugar	(measured)	40,000	\$.08	\$3,200.00
Corn syrup	(measured)	45,000	.06	2,700.00
Scrap	(measured)	5,000	.07	350.00
Flavors	(std. per batch)	800	.30	240.00
Colors	(std. per batch)	800	.15	120.00
Total	-	91,600	\$.0722	\$6,610.00
Evaporation	20%	18,320	\$	\$
Scrap		15,000	.07	1,050.00
Cooked can	dy 4,500 cases @ 12#	54,000	.0931	5,027.40
Quantity va	riance	4,280	.0931	\$ 398.47
Price variar	ice			\$ 134.13

## EXHIBIT IV

	Quantity per case*	Quantity	Price	Cases Cost/Cas	se Amount
Cases packed			\$	4,500	\$
Cooked candy	12	54,000	.0931	1.117	5,027.40
Boxes	12.12	54,540	.0100	.121	545.40
Other box materials		54,540	.0050	.061	272.70
Cases	1.01	4,545	.0300	.030	136.35
Other case material	s 1.01	4,545	.0050	.005	22.72
Labor				.750	3,375.00
Overhead				1.000	4,500.00
Selling and administ	rative			1.000	4,500.00
Delivery expense				.250	1,125.00
		4,500		4.334	\$ 19,504.57
Beginning inventory		25,500		4.334	110,517.00
Total		30,000		4.334	\$130,021.57
Shipments		6,995		4.334	\$ 30,316.33
Quantity variance		5		4.334	**23.24
Ending inventory		23,000		4.334	\$ 99,682.00

<sup>\*</sup>A standard scrap allowance of 1% is built into the standard

cult to operate. The writer believes that, if management is to have effective operating information, an integrated standard cost system is in the long run frequently less difficult to operate than other types of cost systems which must to a greater extent be supplemented by various operating reports. In the case cited, the standard cost system was the primary basis for controlling the company's operations in conformance with conditions imposed upon the company by the seasonal nature of its business and its financing requirements. It is doubtful that as effective results could have been obtained through other conventional procedures.

#### EXHIBIT V OVERHEAD EXPENSE ACCOUNT FOR MONTH

Description	Budget	Actual	Variance
Indirect labor	\$1,000	\$ 850	(\$150)
Depreciation	1,500	1,500	
Supplies Etc.	500	700	200
Total	\$5,000	\$4,700	(\$300)
Expense variance		(300)	
To finished goods (4,500 @ \$1.00)		\$5,000 4,500	
10 milaneu goods (4,300 @ \$1.00)		7,300	
Volume variance		\$ 500	

#### EXHIBIT VI COMPARISON OF FIXED AND VARIABLE BUDGETS

	Fixed budget	Actual	Variable budget	Actual
Indirect labor Depreciation Supplies Etc.	\$1,000 1,500 500	\$ 850 1,500 700	\$ 800 1,500 400	\$ 850 1,500 700
Total Expense variance	\$5,000	\$4,700 (300)	\$4,400	\$4,700 300
To finished goods (4,500 @ \$1.00)		\$5,000 4,500		\$4,400 4,500
Volume variance Total variance		\$ 500 \$ 200		(\$ 100) \$ 200

## EXHIBIT VII STATEMENT OF PROFIT AND LOSS

mu	*******	EHDI	140		
4		N	lonth	Year	to date
Net sales (@ \$5 per case) Standard cost of sales	\$:	21,572	\$34,975	\$61,680	\$100,000
*Manufacturing variance		(535)	21,037	(1,680)	60,000
Gross profit Standard selling and			\$13,938		\$ 40,000
administrative expense Selling and administrative	\$	6,995		\$20,000	
variance		895	7,890	1,000	21,000
Standard delivery expense Delivery variance	\$	1,749 (305)	1,444	\$ 5,000 (500)	4,500
Operating profit	_		\$ 4,604		\$ 14,500
Provision for federal taxes			2,394		7,540
Net profit			\$ 2,210	=	6,960

<sup>\*</sup> Includes purchase price variance.

#### EXHIBIT VIII PRODUCTION AND PROFIT SUMMARY

	Month	Year to date
Inventory increase (cases)	(2,500)	23,000
Shipments	6,995	20,000
Net production	4,495	43,000
*Standard profit per case	\$.32	\$.32
Variances per case	\$.01	(\$.03)
Indicated profit per case	\$.31	\$.35
Indicated profit for period	\$1,393	\$15,050
* \$5.000 - \$4.334 = \$.666 before	re taxes, \$.32 after	taxes.

usage of certain materials.

\*\* Small differences caused by dropping decimals are allowed to fall into the variance or inventory accounts.

## Fleischmann knows how to pick pecans





# Fleischmann's fancy Pecans

A PRODUCT OF STANDARD BRANDS INCORPORATED

fo

pr

pla pla

lat yo de be

for

## Quality control: cream centers

uality, as applied to manufacturing, refers to intangible characteristics that are difficult to measure. Basically, quality refers to degree of excellence of goodness. Appearance, texture, and flavor are the factors that will determine the quality

of any food product.

ans

of

ncv

ns,

ion.

ans

vor

ver

you

me

try.

ies,

ive.

oith

ice!

ctioner

The job of quality control of cream centers starts with the inspection of incoming raw materials. Specifications must be set up so that suppliers are aware of your needs. Every raw material should be checked physcially, chemically and organoleptically before being used in production. If the raw material had been approved initially by quality control but had not been used for some time, or some abnormality had taken place in the storage area, the material should be evaluated again before being used. Everyone in the organization from president down to the janitor must live and breathe quality in order for it to exist. Quality is built into products by workers on purpose. Happy and contented workers will not hesitate to tell their supervisors and the representatives of quality control of any abnormal characteristics of a raw material such as appearance, taste, size, and processing difficulties. Good human relations between departments of your firm and the personnel of these departments is a good insurance policy for "quality candy."

Safe practices and good housekeeping are essential to maintain quality in your product. If the workers are concerned about unsafe practices, they lose their efficiency. Those who work in a clean plant will produce high quality products and will brag to their friends about the cleanliness of their

plant.

Standard formulae which have been proved to produce quality candy should be issued to the production department for all centers manufactured, stating the ingredients, procedure, cook, pieces per pound coated and uncoated, type of chocolate, etc. These formulae will insure uniformity of your products and must be followed to the nth degree. Naturally, if breakdowns occur, changes in formula may be necessary. The change should be known to the Quality Control representatives



BY JOHN VASSOS Quality Control Manager Stephen F. Whitman & Son

long before the product is to be taken out of starch or to be enrobed. Therefore, immediate action can be taken to determine the quality and the acceptability of the candy.

Fondant constitutes the major part of many pieces of candy and it should be properly made to insure quality. It is a mixture of sucrose, invert sugar, corn syrup, etc., cooked to a supersaturated solution, cooled and agitated until properly aerated and grained. It is composed of two phases, a liquid and a solid phase. The texture variation of fondant is determined by the formulae used, proportion of the phases, crystal size, age of fondant and processing method. Qualifications for good fondant are: proper amounts of moisture and reducing sugars, smooth texture and good color.

When all ingredients, including water, are within your standards in the manufacture of fondant, it is necessary to crystallize the sugar solution. For this to occur nuclei must be present in the solution. The crystal size of the fondant will depend on the number of nuclei present, formula concentration, temperature of crystallization, agitation, viscosity of mass and the impurities present.

Controls necessary to insure good, uniform fondant in any method of manufacturing are:

 All ingredients must be within the specification limits.

2. All ingredients must be weighed or metered to the cooking kettle. This includes water. Scales and meters should be checked often for accuracy. In metering corn syrup, it is necessary to remove the air present with deaerators, or in some manner decrease the viscosity of the corn syrup. Since flavored confections can increase appetite appeal and make the consumer reach for another piece, great care must

be taken to insure the proper flavor. All flavors, colors, acids and invertase should be premeasured under laboratory control to insure uniformity.

- 3. Use just enough water to have sugar in complete solution before boiling takes place. Flush out discharge valve to remove sugar crystals. Wash down sugar crystals adhering to the side of kettle. If these precautions are taken, the batch will not be seeded prematurely in the kettle.
- Make sure all raw material valves are tight and there is no leakage into cooking kettles.
- 5. Reduce the main steam header pressure to your cooking kettles. The steam traps should also be checked often to insure condensate removal. Providing there isn't a film inside the kettle, the cooking time of the fondant should not vary depending on atmospheric pressure. If you are forced to drop your operating steam pressure due to state laws, the loss of cooking time can be overcome by the use of a booster coil inside the cooking kettle. If a vacuum cooking system is used the initial cooking temperature will be 8-9° less than atmospheric cooking.
- 6. Add the corn syrup and invert sugar at 1° below the finished cooking temperature. This is done to reduce inversion and color formation. The addition of acid salts such as cream of tartar instead of invert sugar can cause many variations in the finished fondants.

- 7. After the corn syrup and invert sugar have been added to the cooking kettle, turn off the steam about 1° F. below the finished cook. Watch the thermometer until the finished temperature is reached, then open the bleeder. Thermometers should be checked often. It must be remembered that in the fondant range each degree in final cook is equivalent to nearly 1% moisture in the fondant.
- Make sure all lines and coolers are free from grain.
- Cool to the temperature necessary to insure proper crystallization, depending on the method of agitation. The cooled mass is beaten on a slab at 95-100° F. or on a Werner beater at 120-130° F.

rull de no china h

s ot is in u 3 of do 7 b

10. If the fondant is beaten on a beater, put into remelt kettles or tubs. Cover the surface of the fondant with polyethylene covers or wax paper, not wet cloths. If the fondant is beaten on a slab, sprinkle the hot fondant lightly with water which acts as a nucleus for crystallization of the fondant while beating and also prevents formation of a crust by rapid surface drying. As you start to turn up the fondant, it is good practice to add the flavor and the acid. Approximately one minute later, add the invertase. This is done to assure better distribution of these materials in the fondant, especially if it is to be extruded. After the batch becomes opaque, the frappe and color should be added. Addition of the color at the end



Makers of Fine Chocolate and Cocoa



Branches and Warehouse Stocks in . . . BOSTON, NEW YORK, CHICAGO, LOS ANGELES, OAKLAND, SALT LAKE CITY, SEATTLE

ar have n off the ed cook. ned tembleeder. . It must nge each o nearly

ee from

o insure ne metheaten on r beater

put into rface of or wax s beaten tly with vstallizand also surface idant, it and the add the ter dislant, ese batch should

the end

TTLE

ectioner

will indicate visually whether or not the materials are completely mixed. Tempering of fondant will also be necessary. Fondant of this type can be extruded on Friend, Cutrol, Triumph and other extruding machines. It cannot be extruded on the Wilcox without fat or co-coanut being incorporated into it unless you are satisfied with leakers.

Extruded creams are often referred to as hand rolled creams. Some of the problems which occur using proven formulae with these centers are:

1. Too low a liquid phase causes fermentation. This is usually caused by the lack of invertase, or destroyed inverting efficiency. Invertase should never be put into the same bottle as color, flavor or acid. The egg frappe used may also be decomposed. When frappe is added to fondant on a beater make sure it is properly distributed or an inferior cream will result.

2. Too soft fondant may be due to high moisture, high reducing sugar or turning up too cold. Analysis will show the culprit. Moisture is high because of a low cook, poor vacuum used, or overflowing the slab with cooling water. High reducing sugar is due to variation from formula, over cooking or inability to control the action of acid doctors, if used.

3. Too dry fondant may be due to over cooking or beating too hot.

4. Leakage in some hand rolled creams is usually due to improperly and unevenly coated centers. The centers should be tempered to about 15° F. below the temperature of the chocolate coating.

Also available on the market is a product known as powdered fondant which is 90% sucrose and 10% invert sugar. The moisture varies between 2-3%. When reconstituted, it is similar in many ways to fondant produced in our plants. There are both limitations and advantages to its usage.

Casting creams means depositing the centers into moulds. In order to deposit, it is necessary that the center mixture have a high flowability. This is accomplished by remelting which consists of reducing a plastic or firm fondant by means of heat to a condition where it will flow, allowing other ingredients to be mixed with it, and then pouring, pumping, funneling, or depositing into impressions. There are two basic methods of remelting.

1. Melt the fondant and then add invertase, frappe, flavor, acid and color. The fruit acid and color should be added just before the batch is ready to be deposited.

2. Warm the fondant and frappe, then add the bob a few minutes before depositing time. When thoroughly mixed add invertase, flavor, acid and color.

Method #1 melts down the fondant and gives a weaker structure. It is slow and requires a longer melting and mixing time to obtain the desired casting conditions. The syrup factor is increased and the crystal is reduced. As you already know, the production of creams is limited.

Method #2 also melts or dissolves a portion of the fine sugar crystals in the fondant simply by mixing the cooked bob with the fondant. This properly proportioned and cooked syrup is a supersaturated syrup of a relatively high temperature made usually with sugar, corn syrup, and invert sugar cooked to temperatures from 230 to 254° F. depending on the ratio of fondant to bob syrup. The percentage of bob syrup used may vary between 25 to 40% of the weight of the finished batch. The size, composition, and temperature of bobs have a pronounced effect on texture, consistency, and the speed of the set.

Some abnormalities that occur using proved and standard formulae with remelted centers are:

1. Rough texture of a finished center may be due to grainy fondant, adding fondant to cooked bob syrup instead of bob to fondant, overheating, seeding of bob, high moisture content, or failure to deposit goods when predetermined casting temperature is reached.

2. Fermentation, as in hand rolled creams, is caused by low liquid phase and decomposed or fermented egg frappe. Be as careful when making or storing the frappe as when making fondant.

3. Crust is due to wet starch, too low remelt, and addition of water to thin down. If thinning down is necessary, use as little as possible of the low cooked thinning bob.

4. Cupping of bottoms is often due to too high moisture, too much frappe, depositing into hot starch, too low remelt, and being in starch too long. The casting temperature should be adjusted to the type and amount of frappe used.

Dryness of centers is due mainly to remaining too long in starch, overheating, failure to continuously mix the fondant while remelting and too hot starch.

A confectioner can take a high sugar fondant (10-11% moisture) with or without a bob remelt of no higher than 165°, and then add frappe, invertase, flavor, acid and color. The cream can be deposited in rubber mats and within 20 minutes the centers can be removed. After the initial set, the candies are demoulded as soon as possible to prevent sweating in the rubber moulds. The length of time before sweating depends on the amount of moisture and reducing sugar in the centers.

Casting in rubber reduces the possibility of air blisters on crystallized creams, which is often due to the adsorption of starch to the outside of the centers.

Cordial fruits can be made by dipping the fruit in fondant, panning in powdered fondant, depositing in starch, depositing in rubber or casting into moulded chocolate shells.

Many of us have been troubled with fermentation in these centers from time to time. This is usually due to too low a liquid phase. Low liquid phase can be due to lack of invertase, addition of too much water to fondant, too little fondant on the fruit or low concentration of cherry syrup. Another cause is the infestation of fruit with wild yeast, etc. before being used. Preservatives such as benzoate of soda and sulfur dioxide would check the activity of wild yeast. Another abnormality in

cordial fruit creams is hardness. This is due to absence of enzyne, overcooking the fondant, too high a remelt, or excessive draining of the juice or syrup from the fruit before being covered with the fondant.

In casting creams in starch, the final remelt should not be above 165° F. The moisture of starch should be between 6-8%. I personally think a moulding medium should contain 60% moulding starch and 40% powdered starch. The temperature of starch should be below 105° If you should have poor starch impressions, this can be due to vibration of mogul, poor mould board, high moisture in the starch, high sugar content in the starch, high fat content in the starch, static electricity or poor operation.

Again I want to stress that cream centers, cast or hand rolled, should be no more than 15° below the temperature of the chocolate before enrobing. The nearer they get to the chocolate temperature the better. Both cast creams and hand rolled creams are well received by John Q. Public. Both types have their advantages and disadvantages.

I have visited many plants and am amazed at the different methods used to weigh the deposit in starch. At one plant, the mogul operator weighs a starch board plus starch to get the tare and then deposits into it and weighs it again to get his center weight. We put a tared pan on a starch board, make a deposit, and reweigh. This method is not too difficult, and the mogul is not

America Loves

stopped as in some plants. To measure size, skewers are used, and often the starch is penetrated, giving a false result. Accuracy can be obtained if female plastic moulds are used.

Another gadget in plastic that can be readily used is a transparent cherry plastic mould to study color formation and cordialization.

At our plant, every morning at 9:30 A.M., we have for our breakfast samples of all centers made the previous day. They are tested for flavor and texture by a top management representative, consumer representative, quality control representative, merchandizing representative, and section head in whose department the centers were manufactured. Any center below standard is rejected and corrective measures are taken immediately. New centers are also evaluated at this meeting. If there is an indication of acceptance, the consumer representative will obtain another evaluation throughout the plant. If it checks favorably, samples are then forwarded all over the country to see if the consumers like the product. It is important that consumers evaluate the product. If the public does not appreciate the change, it cannot be successful. It is also amazing the unsolicited information you pick up in these consumer sur-

Years ago, an ice cream manufacturer from upstate visited Philadelphia. While in the "City of Brotherly Love," he ate some vanilla ice cream and noticed that vanilla beans and seeds were being used in the ice cream. When he returned he immediately gave instructions to his production manager to put vanilla beans and seeds into his ice cream. Lo and behold, the sales on the vanilla ice cream dropped 300%. Upon investigating he found that the customers thought the vanilla ice cream contained coal dust. Here was an individual who was improving the flavor of his ice cream but he forgot to educate the public.

Quality should run like a golden thread through your entire plant, starting with raw materials and continuing through production in which pride of craftsmanship and loving care must always be in evidence. Candy must have a high IQ (interior quality) because the customer has learned to discriminate between high pressure advertising and a quality product. Inferior quality helps to foster diet foods and stimulate adverse publicity. Quality is the best weapon to conquer these foes.



## Adds "Sell"—because It's Distinctively Different

MIL-LAIT gives your milk chocolate and other chocolate products the "million dollar" flavor that places you in a sharp competitive position. MIL-LAIT is an enzyme modified 28½% butterfal whole milk powder developed from a scientifically controlled lipase enzyme system This scientific laboratory control in turn gives you positive flavor control in your product. Only a small amount of MIL-LAIT replacing part of your regular supply of normal milk powder makes a "world of difference" in final flavor.



Direct Service and Technical Assistance

DAIRYLAND FUUD LABURATURIES, INC 620 PROGRESS AVENUE P.O. BOX 40 WALKESHA, WISCONSIN Bibliography

"How and Why of Candy Making", Mathew W. Berman (out of print)

"Candy Production: Methods and Formulas", Walter R. Richmond (out of print)

"Experimental Cookery", Belle Lowe, 4th ed., Wiley & Sons, 1955, New York City.

"Manufacture of Fondant", Clifford Clay, Confectioners Journal 1955-1956.

"Cream Centers", James King and colleagues, PM-CA Production Conference Reports, 1947-1957.

## Moisture transmission through fats

(A Condensation)

An investigation of moisture transmission through confectionery fats was started at the Southern Regional Research Laboratory at the suggestion of representatives of the Research and Development Committee of the National Confectioners' Association. According to these representatives, instances have been encountered in which chocolate and chocolate-type candies have been returned to the manufacturer because the soft centers lost moisture, shrunk, and cracked the coating. Apparently, the transmission of moisture through confectionery fats should be a consideration when such fats are used in mixtures for enrobing or coating.

While the problem of moisture transfer has been encountered with confections coated with fat mixtures, practically no information relating to the

problem has been published.

For our purpose we found the simplest method of measuring the rate of moisture transmission or permeability to be satisfactory. This method consists simply of sealing a film of fat of uniform thickness in a glass cup. A constant relative humidity is maintained inside the cup by the use of water or a mixture of a salt and water.

To maintain a constant difference in relative humidity across the film of fat, the permeability cup is stored in a closed vessel containing a mixture of water and another type of salt.

The amount of moisture transferred through the film of fat is determined by frequent weighing of the cup over a period of several weeks to several months.

The rate of moisture transmission or permeability is best expressed as an index taking into consideration the dimensions of the film and other pertinent physical factors. In the present discussion the permeability index P is defined by the equation

P = (W) (x)/(A) (t) (p)

where W is the weight of the water, measured in millionths of an ounce, diffusing through a film of thickness x, measured in tenths of an inch, and area A, measured in square inches, in the time t, measured in days (24 hour), when the vapor



BY R. O. FEUGE Southern Regional Laboratory

pressure difference p, is measured in inches of mercury.

Using the procedure which has been described, the permeability indices of various fat products have been measured. The permeability indices cover a wide range, there being almost a thousand-fold difference between the highest and lowest values. It is also evident that the permeability in-

dex is not a constant for a given fat.

The failure of the permeability index to remain constant for a given fat means that the diffusion of water vapor through the films did not follow the relatively simple principles upon which the equation for the permeability index is based. The diffusion apparently is more complicated. However, the permeability index as defined above is still a measure of permeability under a given set of conditions.

The permeability index of some fats apparently is relatively unaffected by variation in film thickness, but with other fats the index increases as the film thickness increases. Cocoa butter apparently is among the latter. As the film thickness was increased from 0.063 inch to 0.115 inch, the permeability index increased from 70.2 to 160. This effect has the tendency to keep the actual rate of water transfer constant while the film thickness varies over a moderate range. In other words, doubling the thickness of a film of fat on a piece of candy probably will have only a small effect on the amount of moisture which is lost.

It should be recognized that increasing the relative humidity on both sides of a film generally increases the permeability index and reduces the driving force or difference in relative humidity. The net results of the two effects may either be a decrease or an increase in the actual amount

for June 1959 - 79

manurejected diately. neeting. ne conevaluarorably, country

, skew-

etrated, btained

readily o study

M., we s made

or and e, conesenta-

section

country t. It is duct. If it canolicited er sur-

City of cream s were ned he luction nto his vanilla ing he illa ice ividual

cream

hrough als and ride of be in interior to disand a er diet ality is

ew W.

Wiley

confec-

s, PM-57.

ctioner

of water transferred. Among the deciding factors will be the nature of the particular fat under consideration.

The effect of temperature on the amount of moisture transferred through a fat can always be predicted-lowering the temperature but keeping other conditions unchanged decreases the amount.

Test data shows that as the percentage of liquid oil in a fat product is increased the permeability to moisture increases greatly. Obviously, if a confectionery fat is to be used in an enrobing formulation whose permeability to moisture is to be as low as possible, a fat having the lowest possible proportion of liquid component at room temperature should be selected. The relationship between storage temperature and the proportion of liquid in a fat also should be recognized. Because most confectionery fats contain some liquid at room temperature and because the proportion of liquid usually decreases progressively as the temperature is lowered, confections coated with a fat mixture should lose the least amount of moisture when stored at the lowest possible temperature. However, in decreasing the temperature, care must be taken not to introduce other adverse conditions, like raising the relative humidity to 100%.

The amount of tempering which a film of fat receives prior to and after solidification also has been found to have a large effect on the permeability. Tests have shown that a film of cocoa butter obtained by quickly chilling the melt was approximately ten times more permeable than a similar film which was seeded during solidification and then tempered for several days at room tempera-

The suspension of nonfat components in fats would be expected to have some effect on the permeability to moisture. At 75% relative humidity and below on the most humid side of the film, the permeability index for both chocolate liquor and sweet milk chocolate was relatively low, lower than that for cocoa butter tested under the same conditions. However, when the relative humidity on one side of the film was increased to 100%, the indices for the chocolate liquor and sweet milk chocolate increased to more than 10 times that for cocoa butter. At 100% relative humidity the nonfat components absorbed so much moisture that the structure of the film was damaged.

Apparently, adding 10% of one fat to another results in some instances in a sizable reduction in the permeability index. This aspect should probably be explored further.

### References

- 1. Landmann, W., Lovegren, N. V., and Feuge, R. O., Journal of American Oil Chemists' Society.
- 2. Lovegren, N. V., and Feuge, R. O., J. Agr. Food Chem., 2, 558-563 (1954).
- 3. Simril, V. L., and Hershberger, A., Modern Plastics, 27, No. 10, 97-98, 100, 102, 150-152, 154, 156, 158 (1950).
- 4. Taylor, R. L., Herrmann, D. B., and Kemp, A. R., Ind. Eng. Chem. 28, 1255-1263 (1936).



meet every requirement. We solicit your inquiries.

**Every major** advancement in the design of Cocoa Presses has a CARVER

**DESIGNED** with Experience **CONSTRUCTED** with Precision SERVICED World-Wide

patent behind it.

FRED S. CARVER INC. HYDRAULIC EQUIPMENT RIVER & CHATHAM RDS., SUMMIT, N. J.

PE: HERMANN BAUERMEISTER GMBH HAMBURG-ALTONA, GERMANY

on and empera-

in fats on the amidity lm, the or and lower e same amidity 0%, the et milk that for he nonre that

another duction d prob-

uge, R. Society. J. Agr.

m Plas-2, 154,

emp, A. 36).

E WORLD

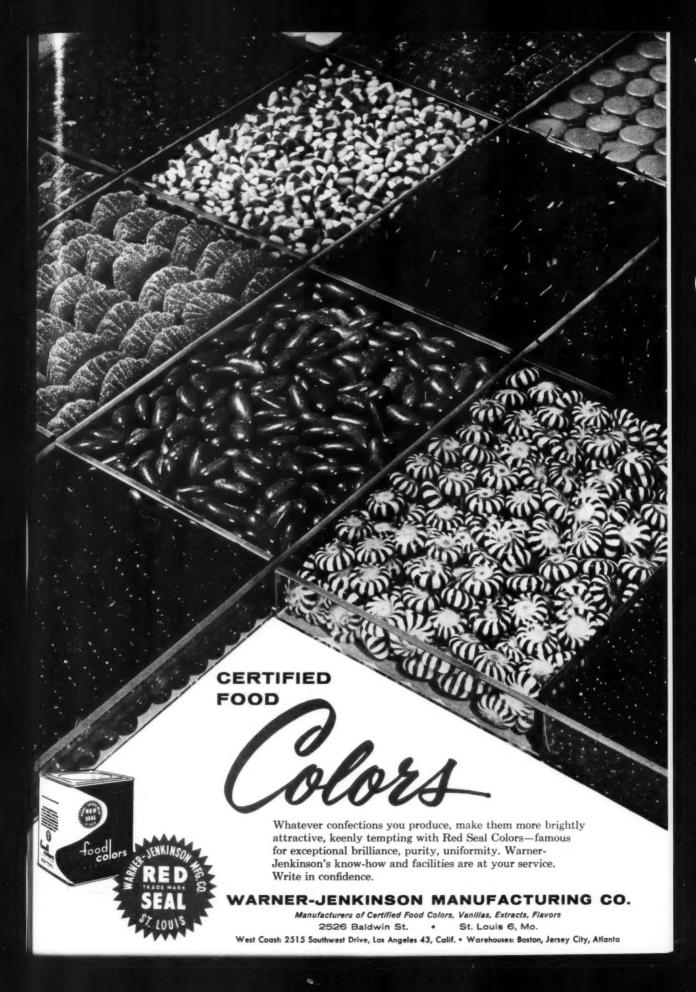
t in
of
ses
ER
od it.

erience Precision le

INC. IENT IT. N. J. R GMBH

ectioner





## QUALITY

- . COATINGS MILK AND VANILLA CHOCOLATE
- COCOA POWDERS
- . LIQUORS (CHOCOLATE)
- CHOCOLATE SHREDS
- SUMMERETTES
- · CREAMED COVERETTS®

SPECIALTIES FOR THE ICE CREAM AND BAKERY TRACES
A HIGH QUALITY LINE—COMPETITIVELY PRICED

SEE YOUR JOBBER OR WRITE DIRECT FOR DETAILS-SAMPLES



Mile 5.7550

### ALWAYS AT YOUR SERVICE

In Cocoa Since 1899

## EMIL PICK CO.

COCOA BROKERS

80 WALL ST.

NEW YORK, N. Y.

**BOwling Green 9-8994** 

COCOA BEANS - COCOA BUTTER
Cocoa and Chocolate Products



di

te

in

or

fo

tir

WI

be

me

for

# Quality control: hard candies

(A Condensation)



BY M. B. SHERMAN
Director of Research
Gold Medal Candy Corp.

day's progressive manufacturers recognize the inherent nature of quality as a built in variable controlled from the entrance of raw materials to the placement of finished product in the hands of the consumer.

To maintain established quality level, it is becoming increasingly important to recognize that the seeds of quality must be planted not only in its objectively measured ingredients but in every aspect of the organization.

I believe that quality is a function of three variables, x, y and z.

Where x equals the objective characteristics measurable by physical or chemical methods, such as composition, temperature, pressure, time, etc.

y equals environmental factors, such as equipment, plant layout, maintenance and sanitation program, employee training and cooperation.

z equals chance variations, due to the limits of personal discretion, scale error, wear of dies, etc.

Q equals f (xyz)

x equals objective or instrumentally measured variables.

 $x_1$  – preparation of specifications

 $x_1$  – preparation of specifications

x<sub>2</sub> - analysis of raw materials

x<sub>3</sub> - placement of raw materials

x<sub>4</sub> - analysis of in-process variables

Raw materials are only as good as their specifications. Therefore it is important that specs. be drawn carefully in accordance with the needs of the process.

All raw materials are subject to inspection and analysis, not only for composition, but for the detection of bacteria, molds, foreign matter, etc. Inasmuch as storage conditions are a determinant of ingredient quality, specification must be set up for

optimum temperatures and humidities.

In-process checks are made on preheating cooks for sugar-corn syrup ratios and finished cooks for moisture, color and reducing sugars. Preweighed and distributed flavors, colors and acid are spot tested before use and candies from the cooling belt examined for these standards. Wet and dry bulb temperatures should be taken at key cooling, packing and storage areas at least four times a day.

Finished packages are examined for individual wraps, seal and, of course, designated weights.

These are the most important variables that can be instrumentalized.

We come now to variable y, which may be said to encompass the complete processing environment.

Q equals f (xyz) y equals environmental factors.

 $y_1$  — Machines

Preventative maintenance

Adequate lubrication

Effective communication

y<sub>2</sub> – Scales
Daily weight checks

y<sub>3</sub> — Sanitation y<sub>4</sub> — Plant layout

y<sub>5</sub> - Safety

y<sub>6</sub> - Human factors

No quality control program can be effective without the proper material conditions designed to make it so. A preventative maintenance program must be designed to insure efficient operation and optimum performance of each machine. Effective communication between the plant engineering department and all working areas must be set up to prevent breakdowns during operations.

In the same category as machine control is that of sanitation. Minute daily inspections are conducive to immaculate working areas.

All these environmental characteristics are in turn a function of the plant layout itself.

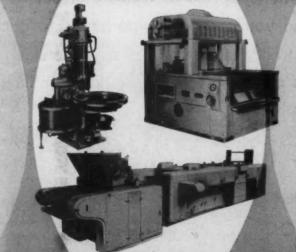
Many of the operations of hard candy manufacturing are still of an "artistic" rather than a "scientific" nature. That is why each worker on every level has a direct bearing on the ultimate appearance of the product. A good quality control program, therefore, should encompass not only a good working environment, but an adequate "in plant" training program, and at a minimum, a weekly meeting of supervisors for the purpose of analyzing the quality and standards of a previous period's production.

We have spoken of the variables of quality that can be measured and those that can be designed.

But with all these mechanical or subjective controls, are we still certain of 100% acceptance of our products? For example, if we take the moisture analysis of a finished cook at 10:00 a.m., how certain are we that this represents a good sampling of the entire day's run? Thus, we are faced with a third variable in the evaluation of quality, which we call statistical controls. Here we establish a quality control level for specific attributes which will insure acceptance by the buyer and production at a profit level, that is, at minimum cost.

The tools to achieve such a quality control level, consist simply of the measurement of the inherent

## BAKER PERKINS MEANS MODERN CONFECTIONERY MACHINERY



Microfilm Sugar Cookers: Atmospheric cooking permits truly continuous operation. Can handle wide range of goods—including highest quality production.

Master Starch Plants: Streamlined design features quick removal of sieve assembly, ease of access to all parts for cleaning, accurate and convenient operating controls.

Baker Sellich Enrobers: Built-in automatic tempering assures constant viscosity and temperature of chocolate supply—and improved quality control of coated goods.

JABEZ BURNS AND SONS, INC

ENGINEERS

600 West 43rd Street - New York 36, N. Y.
HEW YORK - CHICAGO - DALLAS - SAN FRANCISCO

asured

eognize

ariable

rials to

is be-

only in

every

ee va-

eristics s, such e, etc.

equip-

itation

nits of

ctioner

variation of the process. We must strive to control our process average on the theory of probability that this average will hold for 95% or 99% of the entire output. Therefore, our sampling must be so chosen as to give us an accurate picture of the whole. Take the weight control of finished packages. If we set up a chart of 40 recorded weights taken four at a time at regular intervals throughout the day, we can by simple mathematical procedure, construct what is known as a control chart. By averaging the four observations, and their ranges, adding the averages and striking a group average, we obtain the mean weight and the mean range of the entire lot. By the use of a formula derived from the mathematical basis of probability, we arrive at upper and lower control limits between which we can be mathematically certain of retaining 99% of all observations. These control limits are then used as standard for subsequent observations, and represent the operating characteristics of the machine prior to any further adjustment.

Once these are set for the level desired-any point representing observations outside the control limits would be cause for taking action on the entire operation. The charts also serve to indicate trends-i.e., if a series of points are gradually moving upward, we can be sure that the weight mechanism must be examined.

## Literature

- 1. E. L. Grant, Statistical Quality Control, Mc-Graw Hill, New York, 1947.
- 2. A. Duncan, Quality Control and Industrial Statistics.
- 3. Military Standard, MIL-STD-105A, Sept. 11, 1950. Sampling procedures and tables for inspection by attributes. Supt. of Documents, Washington, D.C.
- 4. QMC General Testing Procedures Manual, May 11, 1955. Dept. of the Army Off. of the Quartermaster General, Washington, D.C.

Ju

No

Ap

Jui

for



## IT'S IN THE BAG [ MURNANE ]

## NOT IN YOUR PRODUCT

Objectionable board dust ("lint") is the natural result of any board converting process. However, at Murnane, special equipment of our design collects the lint and we send you only what you hoped to get. Whether your needs are special treatments on bar boats, base cards, die cut boards, partitions, layers or dividers we make them-on time and to your complete satisfaction.

## Murnane Paper Co. 1510 N. Kostner Ave. CHICAGO 51, ILL.

CApitol 7-5300

LET US TELL YOU MORE-BOOTH #29 NCA EXPOSITION

## **CALENDAR**

I, Mc-

ustrial

pt. 11,

for in-

ments.

lanual.

of the

0

con-

de-

get.

ards,

time

ON

ectioner

June 13-16; M.C.B.A., New York Candy Club Exposition, Trade Show Bldg., New York, New York.

June 17; Confectionery Salesmens Club of Baltimore, Inc., annual stag outing, Annapolis Country Club, Annapolis Roads, Md.

June 18-21; Boston Confectionery Salesmen's Club, 14th annual convention, Mount Washington Hotel, Bretton Woods, N.H.

June 25-28 PMCA, annual Convention, Galen Hall, Wernersville, Pa.

June 29-July 2; NCSA convention, Concord Hotel, Lake Kiamesha, N. Y.

July 13-16; Southern Wholesale Confectioners and Tobacco Association, annual convention, Biltmore Hotel, Atlanta, Ga.

July 26-30; NCWA, convention, Palmer House, Chicago, Ill.

August 27-28; Badger Candy Club, 10th Annual Fall Candy Carnival, Astor Hotel, Milwaukee, Wisc.

September 8; Chicago section, AACT, 6:30 p.m., Dania Club, 1651 N. Kedzie Avenue, Chicago.

October 3-8; International Bakers' & Confectioners' Union, 45th exhibition, London, England.

October 31-November 3; National Automatic Merchandising Association, convention and exhibition, Chicago, Ill.

November 3-5; Canadian National Packaging Exposition, Toronto

November 17-20; Packaging Machinery Manufacturers Institute Show of 1959, New York Coliseum.

#### 1960

April 20-27; Interpack, 2nd international packaging exhibition, Dusseldorf, Germany.

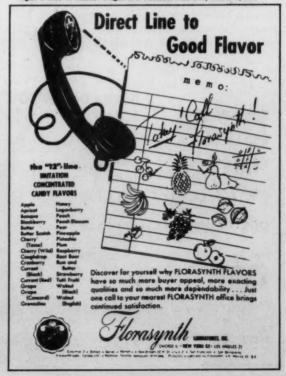
June 5-9; National Confectioners Association, 77th annual convention, Philadelphia, Pennsylvania.







Cincinnati • Detroit • Ballas • Bestan • New Orleans
St. Leuis • San Francisca
Florasynth Labs. (Canada Ltd.) • Mentreal, Toronte, Vancouver, Winnipag
Agts. & Dist. in Mexico: Oragueria & Farmacia Mez. S.A., Mexico 1, D.F.



## NOTES ON THE PACKAGING SHOW

An exposition as vast as the American Management Association's National Packaging Show is difficult to summarize, capsulize or in any other way make meaningful. A person spending all five days visiting exhibits still chanced missing something of interest. After all there were 376 companies displaying their wares in 146,000 square feet of floor space.

The following are some of the highlights that interested candy people. They aren't all that was important at the show (we just don't have the space for that kind of report) but they are some of the exhibits that drew attention:

Hayssen Manufacturing Company introduced the smallest automatic form, fill and seal machine on the market in its Compak Model "J". The machine has been made smaller by use of rotary motion instead of reciprocating motion. It will form pouch or pillow packages or seal on all four sides. Series "J" machines operate at speeds from 30 to 150 bags per minute (depending on size of bag and type of product). This compact machine requires little maintenance and is priced economically.

DuPont's Film Department was on hand with information about 600-K, their new polymer-coated film which has a stiffness that withstands a great deal of handling and stacking. This 600 gauge film is noted mainly for durability but also offers adequate moisture protection on most items. The K cellophane line in general is considered by DuPont to offer maximum durability and protection particularly to foods containing fats and oils.

Stokes & Smith displayed complete production of setup boxes—from flat blank to finished box. The Stokesbend machine was in operation bending flat blanks up to 180° and delivering to a Model "D"

Stokesfeed which glues and wraps.

**Hudson Sharp** had the Campbell Wrapper at work packaging hard candy in cellophane at speeds up to 400 per minute.

The Simplex Model 200 was introduced making side weld polyethylene bags. This Model is designed for heavy duty production and can turn out 25 to 105 finished bags per minute making flat or gusset bottom bags from flat stock or tubing.

Nashua Corporation showed an electric-powered machine for dispensing reinforced sealing tapes with a center tear-tape and starting tab. A hand-operated version called the "52" Tu-Tayper was also shown. Use of the tear tape on cartons eliminates chance of damage to contents in opening.

Wright Machinery introduced their Advanced Bagmaster System which produces pillow-type packages, single or double walled from plain or printed stock. The system holds extra rolls of stock so that the only down time required is for splicing. The Hytronic weigher (a new Wright development) is an electronic weight detector which is an integral part of this system, not just an auxiliary.

National Equipment had information available on its SpeedWrap machine which is one of the most versatile in the field. The machine can handle packages up to 15 inches long by 9-1/2 inches wide by 5 inches high. No adjustment is necessary to change from underfold to endfold on wraps that can be cellophane, pliofilm, aluminum foil or paper.

Errich International demonstrated the models of the Speedy Bag Packager. These machines can use gusset, plain, flap and bags of other designs. The Model 111-11 Special opens lip bags automatically and flush bags at a speed of 1,200 per hour. Model 813 is made completely of stainless steel and is particularly suited to food packaging.



Weekend Special

## All-purpose truffle center

BY HERB KNECHTEL

Knechtel Laboratories

### Formula

- 5 lbs. 45% cream powder
- 4 lbs. water
- 12 lbs. milk chocolate
- 4 lbs. chocolate liquor
- 1/2 oz. invertase

## Procedure

Mix cream powder and water and heat to 180° F. At that temperature start to whisk in the melted milk chocolate in a slow steady stream. After this is well mixed, start adding the chocolate liquor in the same way. When that is well mixed in, add the invertase and mix well. Let this batch

stand overnight, and it is ready for further processing in a variety of ways.

This center makes an excellent hand-roll for dipping in chocolate and rolling in nut meats or coconut. The illustration is of this center dipped in milk chocolate and rolled in chopped almonds.

Another excellent use is for dipping in pastel

Chopped nuts of any type may be mixed into this center, and dipped in regular coatings.

This can also be used as one layer of a two or three layer piece. If it proves too soft for this purpose, it can be stiffened by adding a little more chocolate liquor than the formula calls for.

Note: Plans for the wire cut machine, mentioned in our May issue, will be published in July. Space limitations in this issue prevented our including them.

for June 1959 - 87

er at peeds

aking turn aking bing. vered tapes

tapes handwas elimiening. anced

anced r-type in or stock icing. ment)

ary.
ilable
of the
han-

nannches essary wraps oil or

nodels es can esigns. auto-0 per ainless

EVICE or every finished

aging.

Blanchns line, roasts, does it

vice is design

NS, INC.

N. Y.

ctioner

# For MAXIMUM PROTECTION and ATTRACTIVENESS











Sweetone Paper Products meet every requirement for complete protection of confectionery products . . . at the same time improving the interior appearance of your packages. We have full facilities for cutting, dieing out and embossing to your specifications.

Write Dept. C for samples to your specifications and/or literature on Sweetone products.

CANDY BOX PADDINGS
GLASSINE

WAVEE PARCHMENT WAXED PAPERS EMBOSSED PAPERS
CHOCOLATE DIVIDERS

DIE CUT LINERS
PARTITIONS

LAYER BOARDS
BOATS AND TRAY ROLLS

(Pur

udge

Cold Text Nuts Tast emari fudg

Appear Contain white

Colo

ANU.

FEBR MARC

APRII

MAY-

AUGU EPTI OCTO OVE

ECE

for .

REPRESENTATIVES IN PRINCIPAL CITIES



GEORGE H. SWEETNAM, INC.

Specialists in Interior Packaging

282-286 PORTLAND ST. CAMBRIDGE, MASS

# Candy

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANU-FACTURING CONFECTIONER.

## Marshmallows; Fudge

Code 6F9 **Assorted Fudge** 1 lb.−89¢

(Purchased in a chain variety store, Oak Park, Ill.)

old in Bulk: Folding white box printed in blue.

udge: Vanilla nut Color: Good Texture: Good

**Nuts:** Good Taste: Good

emarks: A very well made home made fudge. Good quality and good eating.

Code 6D9 **Miniature Marshmallows** 5 ozs.—15¢

(Purchased in a food shop, Oak Park, Ill.)

Appearance of Package: Good Container: Cellulose bag printed in red, white and blue.

farshmallows. Colors: Good Texture: Good

lucts.

OARDS

ROLLS

ectioner

Flavors: See remarks.

Remarks: A well made marshmallow and good eating but the flavors were very weak. Suggest again as much flavor be used to improve the taste.

> Code 619 **Fudge Drops** 12 ozs.-39¢

(Purchased in a chain variety store, Oak Park, Ill.)

Appearance of Package: Good Container: Oblong tray, one layer type, overall printed cellulose wrapper in

green, brown and white.

Piece: Piece is a vanilla fudge rolled in white coconut.

Color: Good Texture: Good Coconut: Good Taste: Good

Remarks: A good eating piece and of good quality for this priced confec-tion. Suggest that name, address and ingredients be printed on container to avoid trouble with the Food & Drug Dept.

Code 6G9 **Assorted Fudge** 1 lb.-\$1.00

(Purchased in a retail candy shop, Oak Park, Ill.)

Sold in Bulk: One layer type box, white glazed paper top printed in red and gold. White paper wrapper, overall print of name in gold and red.

Fudge: Vanilla nut, chocolate nut, white divinity

Colors: Good Texture: Good Pecans: Good Flavors: Good

Remarks: A very fine eating fudge and a good amount of pecans was used. The best nut divinity fudge we have examined this year but the walnut pieces were very strong and had an old taste.

> Code 6H9 **Chocolate Nut Fudge** 10½ ozs.-39¢

(Purchased in a food shop, Oak Park, Ill.) Appearance of Package: Good

Container: Oblong box, one layer type. Overall foil wrapper printed in red, blue, brown and white. Imprint of fudge in colors.

Appearance of Box on opening: Good Number of Pieces: 12

Milk Chocolate Coating:

Color: Good Gloss: Good Strings: Good

Taste: Good

Center: Chocolate nut fudge

Color: Good Texture: Good **Nuts:** Good Taste: Good

Remarks: The best chocolate coated walnut fudge we have examined this year in this price field. Very well made fudge and good eating. Neat and attractive foil wrapper.

## Candy Clinic Schedule For the Year

ANUARY-Holiday Packages; Hard Candies

FEBRUARY-Chewy Candies: Caramels: Brittles

MARCH-Assorted Chocolates up to \$1.15

APRIL-\$1.20 and up Chocolates; Chocolate Bars

MAY-Easter Candies; Cordial Cherries

UNE-Marshmallows; Fudge

**UGUST**—Summer Candies

EPTEMBER-Uncoated & Summer Coated Bars

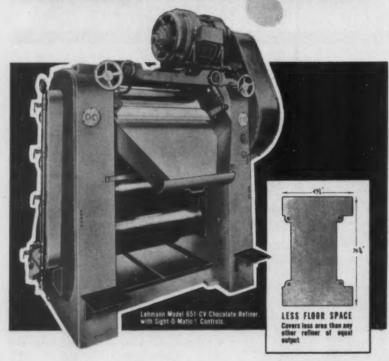
CTOBER-Salted Nuts; Gums & Jellies

OVEMBER-Panned Goods; le Pieces

ECEMBER-Best Packages and Items of Each Type Considered During the Year.

for June 1959 - 89

# IS THAT NEW PLANT REALLY NECESSARY



Profitable operations depend on your getting maximum production out of every available square foot of floor area in your plant. Compact Lehmann machines for the process industries are highly streamlined to deliver maximum output in minimum floor space. They'll give you that competitive edge you're looking for.

Lehmann technological progress has, for more than a century, set the pace for the design of production machinery used in various processing industries throughout the world.

Before you spend a lot of money on bricks and mortar for new plant construction or expansion, it will pay you to study carefully the possibilities of obtaining the higher production levels you need from cost-saving, space-saving Lehmann equipment.

Lehmann chocolate processing and confectionery equipment includes: REFINERS . DISC CONCHES - PASTE MIXERS - EMULSIFIERS - LEHMANN VORTI-SIV, Gyratory Straining Machine -HOLLOW MOULD PLANTS - AUTOMATIC COATERS, ENROBERS, and TEMPERING MACHINES.

Details on specific equipment and plant layout services on request.

If you are not quite ready for new Lehmann equipment, ask about our Certified Factory Reconditioning Service on your present machines.

Be sure to see our advertisement in Chemical Engineering Catalog.



## J.M.LEHMANN COMPANY, Inc.

COAST-TO-COAST

Moore Dry Dock Company Lammert & Mann Co. Oakland, California

Chicago 12, Illinois

J. M. Lehmann Co., Inc. Lyndhurst, New Jersey

## Code 6A9 **Assorted Chocolates** 1 lb.-\$1.45

(Sent in for analysis) Appearance of Package: Good

Container: One layer type box, oblong shape. Top printed in tan, dark brow and green. Colonial home printed in brown. M.S.T. cellulose wrapper. Appearance of Box on opening: Very

Number of Pieces: Light Coated: 16 Dark Coated: 19.

Coatings:

Colors: Good Gloss: Good

Strings: Good Taste: Good

Dark Coated Centers:

Hard Candy Blossom: Good Orange Cream: Good Vanilla Caramel: Good

Opera Cream: Good Buttercream: Good

Nut Nougat: Good Coconut Paste: Good

Chips: Good

Nut Buttercream: Good

Pink Cream: Could not identify flavor **Light Coated Centers** 

Cashew Clusters: Good Vanilla Nut Caramel: Good Chocolate Nut Paste: Good

Buttercream: Good Chocolate Cream: Good Vanilla Nut Cream: Good Nut Crunch: Good

Nougat: Good Raisin Cluster: Good

Almond Cluster: Good Assortment: Good

Remarks: The best box of assorted chocolates at this price we have examined this year. We have examined many other assorted chocolates at higher prices that were not as good as this box of assorted chocolates. Suggest the flavor in the pink cream be checked up; a good cream but very weak in flavor.

> Code 6E9 **Date Confection** 7½ ozs.-39¢

(Purchased in a food shop, Oak Park, Ill.)

Appearance of Package: Good Container: Folding oblong box, one lay er type, printed in pink, blue an white. Imprint of date pieces in color Appearance of Box on opening: Goo

Number of Pieces: 15 Piece: Piece is a date paste rolled chocolate sprills.

Sprills: Good Center:

Color: Good Texture: Good Taste: Fair

Remarks: Center had a strong taste it was scorched in the cooking. The piece also lacked a good date flavor. Suggest more dates be used and the center checked up to improve the taste.

es

ox, oblong dark brown printed in capper. ning: Very

ntify flavor

orted choce examined ined many at higher ood as this Suggest the be checked ry weak in

op,

ox, one lay blue and es in colors ning: Goo

e rolled i

ng taste as oking. The date flavor, ed and the ve the tasts.

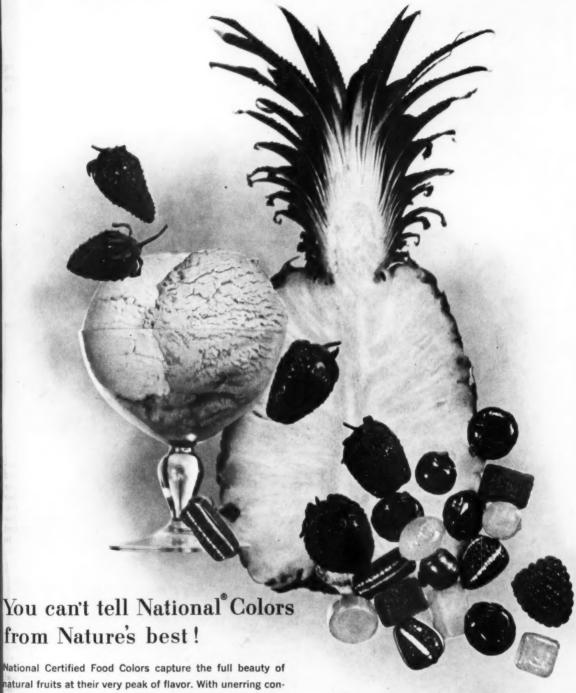
ectioner

5

Yo fro

Natio natur sisten time.

We had more second We'll



National Certified Food Colors capture the full beauty of

natural fruits at their very peak of flavor. With unerring consistency, they reproduce those appetizing colors time after time..."telegraphing" the flavor before you actually taste it.

We have helped food processors use color creatively for more than 50 years. With the broadest range of primary and secondary colors made, we can match any shade you desire. We'll gladly put our long experience to work for you.

NATIONAL® CERTIFIED FOOD COLORS

#### NATIONAL ANILINE DIVISION

40 RECTOR STREET, NEW YORK 6, N. Y.

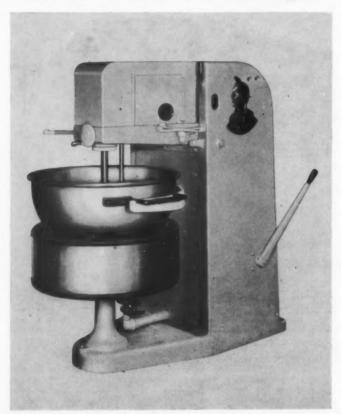
Atlanta Boston Charlotte Chicago Greensbore Los Angeles
Philadelphia Portland, Ore. Providence Som Francisco In Canada: ALLIED CHEMICAL CANADA, LTD., 100 North Queen St., Toronto 14



## SAVAGE LATEST FIRE MIXER

MODEL S-48

Thermostatic Gas Control—Variable Speed



The Savage Latest Fire Mixer, Model S-48, is Streamlined and Sanitary and has many new features and conveniences:

Automatic Temperature Control
Variable Speed from 30 to 60 RPM
Break-back within floor space 32" x 48"
Aluminum Base and Body Castings
Atmospheric Gas Furnace with Stainless shell
Removable Agitator, single or double action
Stainless Cream Can and Stainless Drip Pan
Copper Kettle 24" diameter 12½" deep or 16" deep

You can save labor and obtain uniform batches by setting the thermostat for degree cook desired. It cooks and mixes batches of caramel, peanut brittle, peanut candies, fudge, nougat, gum work, and with double action agitator is ideal for coconut candies and heavy batches.

Your inquiry invited

## SAVAGE BROTHERS COMPANY

2638 Gladys Ave.

Chicago 12, Ill.

#### Code 6C9 Buttercreams 1 lb.—\$1.45

(Purchased: Sent in for analysis)

Appearance of Package: Good

Container: One layer type box, printed in yellow, brown and white. Imprint of lady and butter churn in colors. M.S.T. cellulose wrapper.

Appearance of Box on opening: See

Number of Pieces: 28

Coating: Dark

Color: Good

Gloss: See remarks Strings: Fair

Taste: Good

Centers: Plain buttercream: Good

Assortment: Poor

Remarks: The best buttercreams we have examined this year at this price. Suggest some of the following centers be added to improve the assortment: raspberry, orange, coconut, chocolate, nuts. The consumer, as a rule, looks for an assortment of centers in a one pound box. Box made a poor impression on opening as a number of pieces were broken and fine pieces of chocolate were all over the box. Suggest a good divider be used to keep pieces in place. Have divider about 1/16 of an inch higher than the chocolates.

## From the leading manufacturer of transparent candy canes...



ROUND TUBES & CORES CO.
805 No. Peeria St. • Chicago 22, Ill.

for .

alysis)

ox, printed te. Imprint in colors.

ening: See

bod

creams we this price. owing centhe assortonut, chocas a rule, centers in ade a poor a number fine pieces r the box. e used to ve divider igher than

facturer anes..

LE CANE

RES CO.

ectioner



## plus

#### THE BEST

in technical "know-how" and skill from the acknowledged experts in the business.

THE BEST in continuing experience in the buying, blending and processing of quality cocoa beans to produce high-grade chocolate products.

#### THE BEST

and widest range of chocolate and cocoa products.

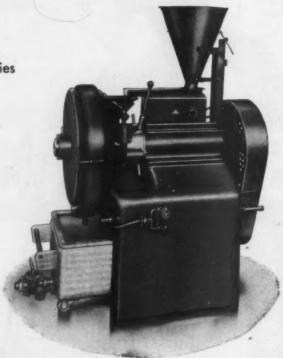
SINCE 1780-When it comes to Chocolate-Baker's makes it best

## F.B. LEHMANN G. M. AALEN-WURTT

Cocoa Liquor Ring Mill

**Type 1313** 

Will be seen at
Confectionery Industries
Exposition
June 8 to 11
Booth 206



Heavy duty yet simple construction

Most compact — Modern — Economical Mill

Output 400 lbs./hr. — Fineness 40 Microns

Sole representative for the U.S.A. and Canada

## CARLE & MONTANARI, INC.

95 temple avenue, hackensack, n. j. HU 9-929

Sales Representative & Service: Chicago, III. — Los Angeles, Calif. — Canada in Vancouver, B. C. — Calgary, Alta. — Winnipeg, Man. — Torento, Ont. & Montreal, Que.

94 - The Manufacturing Confectioner

Par tured tribute New to ove When and the

ce co

Thos leavy he sha

lichard play sta pight in orced package

for J

## New Packages

IRTI



Park's Sugarless Gum, manufactured by Chiclecraft, Inc. and distributed by Estee Dietetic Sales, New York City, is using cellophane to overwrap their twenty count box. When the cellophane is removed and the box flap raised a self-service counter display is formed.



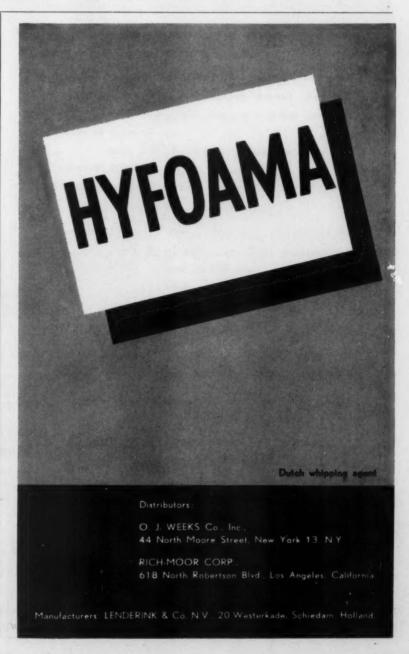
Thos. D. Richardson is using a leavy cardboard display piece in the shape of an old-fashioned butter churn for in-store promotion of lichardson Butter Mints. The display stands 30 inches high and an eight inch well with a doubly reinforced base holds the butter mint packages.



Chunky Chocolate Corporation has released Chunky Cuties in a newly designed cellophane bag. The package is red and brown and the boomerang-shaped window is outlined in white. The Chunky Cutie

trademark is printed on the side of the bag for easy reading when the bags are stacked on shelves. The basic design is the same as that of the Chunky six-pack, giving a strong family identification.

Stephen F. Whitman & Son is imprinting a code in invisible ink on the covers of its boxes as a quality control guide. The coding is done automatically and the mark can be read by exposure to ultra violet rays.



## New Packages



Delson Merri-Mints are now on the market in this new package which features a wavy window design in place of the oblong used previously. Type and lettering have been changed but the familiar Delson green remains as the dominant color.

**Stephen F. Whitman & Son** has announced the addition of four items to their spring and summer self



service line. All the items are packaged in cellophane bags like the coconut milk caramels shown. The other items are french mint creams, fruit flavored pectin jellies and toasted coconut candy macaroons.

#### WE CAN HELP YOU "PRODUCTIONWISE"

Are you planning production of summer candles?

Are your current formulas in balance?

Do your candles prematurely grain?—

dry, ferment or mold?

Can your process be simplified, and your costs lowered?

Can you improve quality and maintain uniformity?

NULOMOLINE SERVICE . . . cooperating with manufacturers since 1909 . . . can be of service to you.



Discuss your problems with our practical-technical staff

Be sure to visit BOOTH No. 203

at the
CONFECTIONERY INDUSTRIES EXPOSITION

Conrad-Hilton Hotel—Chicago
June 7-11, incl.

#### THE NULOMOLINE DIVISION

AMERICAN MOLASSES COMPANY

Manufacturers of Nulomoline® — Standardized Invert Sugar and Syrups
120 WALL STREET, NEW YORK 5, N. Y.

330 East North Water St., Chicago 11, III. 400 No. Gayoso St., New Orleans 19, La.
NULOMOLINE, Ltd., 1461 Parthenais St., Montreal, Canada
PACIFIC COAST: 1300 West 3rd St., Los Angeles 17, Calif.

#### Newsmakers

Western Condensing Company has announced the appointment of Charles F. Martin to the position of director of sales. Mr. Martin succeeds Douglass L. Mann who has moved to an executive position with the parent company, Foremost Dairies.

John A. Kooreman has been appointed manager, technical sales service of the food division of Penick & Ford. Mr. Kooreman has been with the company since 1939 and is also secretary-treasurer of the American Association of Candy Technologists.

Sun-Ripe Cocoanut Corporation has appointed Eastern Marketing Associates as sales representative in the Philadelphia and eastern Pennsylvania area.

HO:

for .

Bernard Blake, New England representative for Burke Products, Gurther Products and W. C. Smith & Sons, passed away during the mont of April. Mr. Blake, 74, had bee selling raw materials to the New England confectionery trade for monthan forty years.

FLAVORS FOR CANDY VANIPROX Concentrated Vanilla Sugar... Concentrated vanila Sugar...
available in 2 distinct types:
Pure and Fortified, Especially
suitable in flavoring chocolate
coatings, oil icings, milk products, fondants and cream centers. COCOA-VAN Rich, full chocolate flavor for synthetic chocolate coatings. Also used as chocolate en-hancer/extender in products containing natural chocolate. BUTTATONE A concentrated butter flavor, based on a pure milk starter distillate. Water and oil-soluble available. For candies, coatings, syrups, etc. DOLCOTONE An aromatic chemical of ke-RUM ETHER tonic nature, twice the strength of Coumarin. For the flavor of rum. An important aromatic which has been widely used for a number of years.

OIL-SOLUBLE SPECIALTIES
HONEY • MALT • MARASCHINO • MANGO • MOCHA

These oil-soluble specialties combine flavor strength, durability and authenticity. Recommended proportions, one ounce flavor to 100 pounds of product.



are pack-

like the

nown. The nt creams, ellies and

caroons.

ers

mpany has

tment of position of n succeeds

moved to the parent

been ap-

sales serv-

Penick &

been with

nd is also American

nologists.

oration has

ive in the

ennsylvania

gland replucts, Gu

Smith

the mon

had be

New Eng

for mo

ectioner

OUR 160th YEAR OF SERVICE

DODGE & OLCOTT, INC.

180 Varick Street, New York 14, N.Y.

Sales Offices in Principal Cities

Essential Oils Aromatic Chemicals Perfume Bases Flavor Bases Dry Soluble Seasonings

Send for Flavor Catalog

and Reference Book

for June 1959 - 97

## for Better Marshmallows

## the SAVAGE BEATER

. . . . IS YOUR ANSWER. The Savage latest improved sanitary marshmallow beater is constructed with stainless steel tank, shaft, paddles and breaker bars-100% sanitary. This beater is considered



standard by manufacturers. Built for strength and durability, it assures perfect manipulation of each batch. Hundreds of users in the United States and foreign countries prefer the Savage Beater for its economy in operation and performance in production, because it saves time, space, and operating cost. Four 200 pound Savage Beaters will supply a mogul for continuous opera-

#### THE FIRST COST IS THE LAST COST

- Unexcelled for volume and lightness
- Stainless construction—100% sanitary
- No corners for contamination
- Outside stuffing boxes—no leakage possible
- Maximum beating for volume
- Faster heat discharge from batch
- Creates volume suction of cold air
- Larger water jacket for quick cooling
- 6" outlet valve for quick emptying
- Less power needed with roller bearings
- Large two piece air vent-sanitary
- Direct motor drive
- Sizes available: 150 lb. or 80 gal. capacity

200 lb. or 110 gal. capacity

SAVAGE oval type marshmallow beater also manufactured with stainless water jacket, galvanized cast iron heads, paddles and breaker bars.

Since 1855

## SAVAGE BROS. CO

2638 Gladys Ave.

Chicago 12, Ill.



### Confectionery **Brokers**

G & Z BROKERAGE COMPANY

New Mexico-Arizona El Paso County Texas P. O. Box 227 ALBUQUERQUE N. Mex.

Personal service to 183 jobbers, super-markets and department stores. Backed by 26 years experience in the confectionery field. We call on every account personally every six weeks. Candy is our business.

#### LIBERMAN SALES COMPANY

225 fo

Low la

Die po Weight

1000

for Ju

pec

324 Joshua Green Bldg. 1425 Fourth Ave. SEATTLE 1, WASHINGTON I. Liberman Cliff Liberman Terr.: Wash., Ore., Mont., Ida., Nevada, Utah

#### HARRY N. NELSON CO.

646 Folsom Street SAN FRANCISCO 7. CALIF. Established 1906 Terr.: Eleven Western States

#### RALPH W. UNGER

923 East 3rd St. Phone: Mu. 4495 LOS ANGELES 13, CALIFORNIA Terr.: Calif., Ariz., N. Mex., West Texas & Nevada

#### HERBERT M. SMITH

818 Palmer Drive NO. SYRACUSE, NEW YORK Terr.: New York State

#### SAMUEL SMITH

2500 Patterson Ave. Phone 22318 Manufacturers' Representative WINSTON-SALEM 4, N. CAR. Terr.: Virginia, N. Carolina, S. Carolina

#### FRANK Z. SMITH, LTD

Manufacturers Sales Agents 1500 Active Distributors Box 24, Camp Taylor LOUISVILLE 13, KENTUCKY Terr.: Kentucky, Tennessee and Indiana

#### FELIX D. BRIGHT & SON

Candy Specialties P. O. Box 177-Phone ALpine 6-3988 NASHVILLE 2, TENNESSEE Terr.: Kentucky, Tennessee, Alabama

#### **IRVING S. ZAMORE**

2608 Belmar Place Swissvale. PITTSBURGH 18. PA. Confectionery Broker Representing Manufacturing Confectioners Since 1925 Territory: Pennsylvania excluding Philadelphia.

#### ery

E Paso

RQUE

jobbers, rtment experi-eld. We rsonally ur busi-

g. TON

iberman Ida., CO.

LIF. intes

ORNIA lex.,

R

TH ORK e

22318 ative CAR. lina,

LTD ents rs JCKY e and

SON SEE

RE

senting eluding

ectioner

### Visit Chocolate Spraying Co. Inc., NCA Booth 406



Latini Die Pop with Wrapping Attachment

225 formed and wrapped pops per minute. Low labor-cost operation—one operator does the work of four

Die pop is free of fins-eliminating scrap. Weight of pop is adjustable-without change of dies.

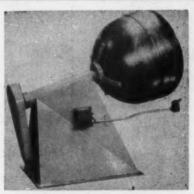


Latini Chocolate Decorator

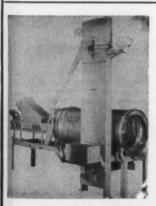
The first of Latini's labor savers—saves 2 to 6 girls per enrob-er. Built for all size enrobers.



Latini Chocolate Spraying System Unexcelled for Panned Goods and pre-building for Enrober. 1000 lbs. per can per day.



Latini Revolving Pan Unusual shape permits increased charges of up to 15% Precision-built for long, hard service life.



Latini Sugar Sander Guaranteed To Properly Sand The Output of any Starch Machine Non-corrosive metals

wherever sugar and



Latini Supplementary Steamer

Supplementary steaming brings out the natural brillance of sugar crystals.

Representative: John Sheffman, Inc.

152 W. 42nd Street

New York 36, N. Y.

## The MANUFACTURING CONFECTIONER'S

#### MACHINERY FOR SALE

#### FOR SALE

Bonus Cluster Machine Model S # 3 Savage Fire Mixers. 20 gal. & 50 gal. Model F-6 Savage Tilting

Mixers, copper kettle.
200 lb. Savage Oval Top Marshmallow Beaters.
Cut-Rol Cream Center Machines.
Triumph Candy Depositor

Bostonian Friend Hand Roll Machine 50" two cylinder Werner Beater. 1000 lb. Werner Syrup Cooler. 150 lb. to 500 lb. Chocolate Melters 24" and 32" N.E. Enrobers. Simplex Gas Vacuum Cooker. Simplex Steam Vacuum Cooker. Savage Cream Vacuum Cooker. 600 lb. Continuous Vacuum Cooker. Form 3 Hildreth Pullers. 6' and 7' York Batch Rollers. National Model AB Steel Mogul. National Wood Starch Buck. Bausman Twin Disc Refiner Unit. Ball and Dayton Cream Beaters.

100 gal. Copper Mixing Kettle with
Double Action Agitator.

2W6-179 350 lb. cap. Resco chocolate melt-ing and tempering kettle. Savage and Racine Caramel Cutters We guarantee completely rebuilt.

Hudson Sharp Wrapper Model

SAVAGE BROS. CO. 2636 Gladys Ave. Chicago 12, Ill.

For sale: Simplex gas-fired vacuum cooker; 3 ft., 4 ft., 5 ft. cream beaters; 50 to 300 lb. chocolate melters; gas stoves; cut roll and Friend cream center machines; pulling machines; York batch rollers; steam jacketed agitating kettles; water cooled slabs; marbles; Hobart & Reed vertical beaters; candy packing wheel; copper kettles; guillotine caramel cutting machine and other items. You will find it worth while to check our prices first. S. Z. Candy Machinery Co., 1140 N. American St., Philadelphia, Pa.

Kiss wrapper-late model K. Wraps both cellophane and wax. Used only three seasons. Write Henry Lahage, 40 Shore Garden Road, Hull, Massachusetts.

Hohberger continuous cooker (2000 # HR), 2 pre-cook kettles, Racine stick machine, Hayssen 7-17 with electric eye. Box 6591, The MANUFACTURING CONFECTIONER.

Simplex steam cooker. Greer 500 lb. chocolate kettle, 32" enrober line with bottomer and tunnel. Box 6594, The MANUFACTURING CONFECTIONER.

#### MACHINERY FOR SALE

Simplex gas fire cooker, Werner twin beater with motor drive, RA Lynch wrapper with roll card feed. Economy sugar sander. Box 6592, The MANU-FACTURING CONFECTIONER.

Quadruple Bausman chocolate grinding unit with mixing and receiving kettles. Triangle triple-spout weighing bag filler. Box 6593, The MANUFACTUR-ING CONFECTIONER.

Cory-Miller heavy duty cellophaning machine. Wraps, seals different size boxes. Excellent condition. Hobart 80 quart, 4 speed super mixer, with attachments for making caramels, marshmallows, and many other things. It stirs, beats, remelts, chops nuts, etc. Excellent condition. Barbara Fritchie Shoppes, Frederick, Maryland.

#### WIRE FORMS: **RACKS and DISPLAYS**

Made to Specifications LOW PRICES: WRITE

**FASFORM WIRE DIVISION** 6171 Carnegie Ave. e Cleveland 3. Ohio

COCOA CAKE





FULLY APPROVED BY HEALTH AUTHORITIES. Manufactured by The Standard Casing Co., Inc. 121 Spring St., New York 12, N. Y

#### MACHINERY WANTED

Package Machinery GH2 Model wrapping bars. Please advise price a where machinery can be seen. Box 456 The MANUFACTURING CONFE TIONER.

#### SITUATION WANTED

Rec

Equipme

year. All

ng mate

with n

latest st

600 to 2

Esq. available to take charge of che ing gum base department and gener candy pan line. To this I will add th I have my own formula for syntheti chichly gum base which took me fiv years of research work. Also I will a Box 1286, The MANUFACTURING CONFECTIONER.

#### MISCELLANEOUS

Simplex folding candy boxes in sta Free samples, automatic folding, cost. Set up boxes made. Shadur I Milwaukee 9, Wisconsin.

Any kind of inedible cocoa residues, such as cocoa shells. cocoa dust, expeller cake. powder, coating, liquor, butter, or any fat-containing material.

(ESTABLISHED 1873)

Woodward &

1400 SOUTH PENN SQUARE, PHILADELPHIA 2, PHONE: LOCULT 4-5600; TELETYPE PHILOP

#### **Classified Rates**

Lightface type-10¢ per word Boldface type-20¢ per word Box number -\$1 additional Minimum charge-\$2.50 10% discount for advance payment.

Classified display advertising is charged at the rate of \$8.00 per column inch for less than ¼ page. Column is 13 picas. ¼ page and over charged at regular advertising rates.

## Ultra Modern **CANDY ACHINERY**

Secured From **Recent Liquidations** 

NTED

ITED

JS

folding,

Shadur

cocoa

cake.

oa shells.

or, butter,

material.

kenson

ELPHIA 2,

er word

ditional

advance

e rate of

nch for olumn is

nd over adverti-

fectioner

50

ge of che and gener

vill add th or synthet ook me f o I will ch all thi ACTURIN

Model

ise price a n. Box 450

CONFE

TREMENDOUS SAVINGS!



Very latest National Equipment M-100 Automatic Streamlined, Heavy Duty Steel Magul with D-100 Depositor. Ball bearings, forced feed lubrication, entirely framed with covers, explosion proof motors. Also with Currie Automatic Loader and Currie Automatic Stacker.



Huhn Double Starch Dryer and Coole with all interconnecting conveyors to operate with Mogul automatically.

## OVER 5,000 MACHINES IN STOCK Rebuilt and Guaranteed To Operate Like New

TYPE

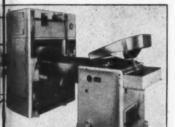
·EVERY

SIZE

We can supply you with a stove and kettle to make 25 lb. batches, or the latest Continuous Cooker · EVERY which will produce 2,500 lbs. of clear, high gloss hard candy per hour. We have a complete stock of Enrobers of all widths, from a 6 inch width belt up to a 50 inch width belt. For centers, we have Moguls and Depositors of all types. We also have mixing kettles of every size, to manufacture caramel, nougat, marshmallow, jelly, creams, etc., as well as cutting equipment for non cast centers.

We have hundreds of high speed wrapping machines in stock to wrap single candies, all sizes of bars and to overwrap all sizes of packages.

Whatever your machinery requirements may be... we have the machine to fill your need.



Equipment 24" Bon Bon Enrober. Used less year. All parts which come in contact with fing material are made of stainless steel. with new machine guarantee. Also 24" latest style Standard Streamlined Enrobers

·FOR EVERY NEED



Steam Jacketed two-way Cop-per, Tilting, Cream Vacuum Cooker emptying into Ball 5 ft. Cream Beater.

VISIT OUR BOOTH NO. 36 N. C. A. CONFECTIONERY EXPOSITION JUNE 7th-11th Conrad Hilton Hotel, Chicago

**Immediate Deliveries** 

All offerings are subject to prior sale



aloss Continu-Candy Vacuum adverti-600 to 2,500 lbs.

Machinery &

UNION CONFECTIONERY MACHINERY CO., INC.

318-322 Lafayette St. New York 12, N. Y. Canal 6-5333-4-5-6

167 North May St. Chicago, Illinois Seely 3-7845

# Advertisers' INDEX

Advertisements of suppliers are a vital part of the industrial publication's service to its readers. The following firms are serving the readers of *The Manufacturing Confectioner* by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry. Advertising space in *The Manufacturing Confectioner* is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers.



#### RAW MATERIALS

Corn Products Sales	National Aniline Division 91 Ambrosia Chocolate Co. 43 American Maize-Products Co. 15 Anheuser-Busch, Inc. May '59 Aromanilla Co. Inc., The 37 Walter Baker Div. General Foods 93 Basic Industries, Inc. 71 The Best Foods Inc. 104 Blommer Chocolate Co. 75, 50, 51, 58, 65, 82, 84, 85 Blumenthal Bros. Chocolate Co. 68 Brazil Nut Advertising Ass'n Apr. '59 California Almond Growers Exchange May '59 W. A. Cleary Corp. 32 Clinton Corn Processing Co. 34 Cocoline Chocolate Co. 82 Corn Products Sales 20 Dairyland Food Laboratories Inc. 78	sion of International Flavors
---------------------	---	-------------------------------

#### PRODUCTION MACHINERY AND EQUIPMENT

Aasted Chocolate Machine Co 14 Buhler Brothers	Greer, J. W., Company	Savage Bros. Co. 92.9 Sheffman, John, Inc. 99.3 Standard Casing Co., Inc., The 10 Stehling, Chas. H., Co. May 5 Thouet Maschinenbau-Aachen. Feb. 5 Triumph Manufacturing Co.
Carle & Montanari, Inc	Mikrovaerk A/S April '59 Molded Fiber Glass Tray May '59 National Equipment Corp 45-70	Union Confectionery Machinery Co., Inc.
Co. May '59 Confection Machine Sales Co. May '59 J. Alan Goddard Limited May '59	Petzholdt	Voss Belting & Specialty Co May Wearever Aluminum Utensils

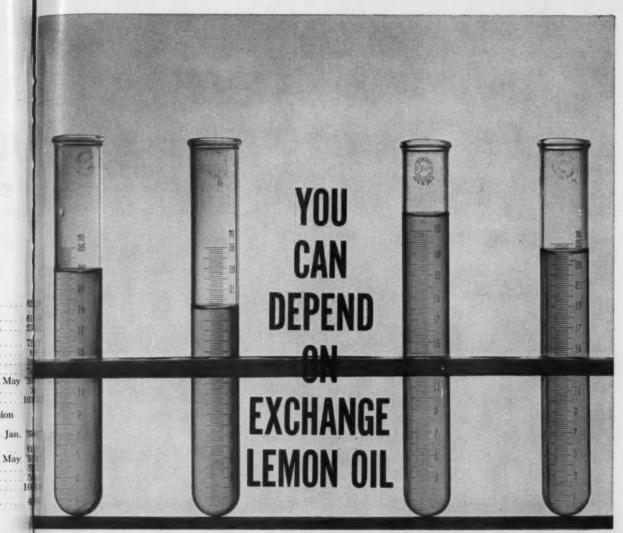
#### PACKAGING SUPPLIES AND EQUIPMENT

American Industries Co., Inc.         58           American Viscose         4           Amsco Packaging Machinery         Dec. '58	Hayssen Manufacturing Co. Feb. '5 Hudson-Sharp Machine Co	Rhinelander Paper Company
Cooper Paper Box Corporation Oct. '58 H. S. Crocker Corp. May '59 Daniels Manufacturing Co. Nov.'58	Knetchel Laboratories Dec. '5 Lynch Corporation Dec. '5	Stevens Candy Kitchens Supermatic Packaging Corp 41-
E. I. du Pont de Nemours & Co 10 Federal Paper Board Co Sept. '58 General Packing Division Aug. '58	Mercury Heat Sealing Equipment         Co.         Nov. '5           Milprint, Inc.         1           Murnane Paper Co.         8	James Thompson & Co July

WHEN .

Use of fornia C Made Arizona who kno

> Distribut 76 N



#### always pure absolutely uniform authentic U.S.P. oil

Feb. WHEN JUST AN OUNCE OR TWO of lemon oil can glorify - or ruin - a hundred-pound batch of your improduct, why gamble?

ision

92.9

June

Sept

July

tioner

Use only Exchange Brand Lemon Oil, U.S.P., California Cold-pressed.

Made exclusively from their own California and Arizona lemons by the Sunkist Growers - the people who know citrus best - Exchange Lemon Oil is carefully cold-pressed, skillfully bulk-blended for matchless uniformity.

Sunkist Growers pack and seal every container from the 7-pound tin to the 395-pound drum-in their own plant, and guarantee every drop to be pure U.S.P. quality oil – unadulterated, unsophisticated. Always look for the word "Exchange" on the tamperproof container seal.



Distributed in the U.S. by: Dodge & Olcott, Inc., 180 Varick Street, New York 14, N.Y. / Fritzsche Brothers, Inc., 76 Ninth Avenue, New York 11, N.Y. / Ungerer & Company, 161 Avenue of the Americas, New York 13, N.Y.

BEST FOODS OILS ARE YOUR BEST BET FOR TOP-SELLING KISSES CARAMELSTAND CHEWY SPECIALTIES BEST FOODS OILS ARE THE TOP CHOICE OF AMERICA'S LEADING



YOU DO BETTER WITH BEST FOODS

NEW YORK CHICAGO DALLAS SAN FRANCISCO

